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ABSTRACT

The European Post-16 Education Strategies and Parity of Esteem project examined problems arising from the disparity in esteem as regards initial vocational education and general/academic education. The final report of this 2-year project is presented here. The study examined uppersecondary school reforms within and across eight European educational systems, attempting to identify educational systems that promote parity of esteem. The results will be used to create opportunities for shared learning from national case studies. Four strategies used in the eight uppersecondary education systems for promoting parity of esteem were identified: (1) vocational enhancement; (2) mutual enrichment; (3) linkages; and (4) unification. These strategies turned out to be a useful analytical tool for studying current reform measures and revealed the importance of the different forms that each strategy can take in different countries, including inter-strategy comparisons. Such comparisons, it is claimed, provide a useful comparative summary of developments in post-16 education and training in each country and yield a clearer national picture than a two-country comparison of the four strategies could provide. The findings indicate that countries with a strong tradition of vocational education and training are also characterized by a high rate of inclusion. Three appendices list project results, national strategies, and a case study. (RJM)

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European Commission
Leonardo da Vinci Programme: Surveys and Analyses
Post-16 Strategies Project

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STRATEGIES FOR ACHIEVING PARITY OF ESTEEM IN EUROPEAN UPPER SECONDARY EDUCATION

EDITORS
JOHANNA LASONEN
MICHAEL YOUNG

EA 029 038

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INSTITUTE FOR EDUCATIONAL RESEARCH
UNIVERSITY OF JYVÄSKYLÄ

FINAL REPORT ON THE PROJECT

LEONARDO da VINCI, Surveys and Analyses, Strand III.2.a
Finding New Strategies for Post-16 Education by
Networking Vocational and Academic/General Education
and Working Life to Improve the Parity of Esteem for
Initial Vocational Training (1996-1997)

"Post-16 Strategies"
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STRATEGIES FOR ACHIEVING PARITY OF ESTEEM IN EUROPEAN UPPER SECONDARY EDUCATION

Editors
Johanna Lasonen and Michael Young

The Post-16 Strategies project (FIN/95/1/226/S/III.2.a/FPI) has been carried out with the financial support of the Commission of the European Communities under the LEONARDO da VINCI Programme, of the Finnish Ministry of Education and of the Partners.

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SUMMARY

Lasonen, Johanna and Young, Michael (Eds.) (1998)
Strategies for Achieving Parity of Esteem in European Upper Secondary Education

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Purpose

The Post-16 Strategies project is an attempt to respond to the problems stemming from the disparity between the esteem accorded to initial vocational education and to general/academic education. The aspiration of young people to enter general and academic programmes has led to a pronounced and sometimes unrealistic demand for academic education. Because of the expansion of participation in post-16 education, vocational and general/academic education systems and programmes may be unable to meet the demands of coherence, flexibility and responsiveness.

The project has surveyed and analysed upper secondary school reforms within and across eight European educational systems that have been or will be undertaken to raise the quality and innovation capacity of national post-16 education systems. The purpose of the project was to identify and compare European post-16 education strategies that promote parity of esteem between vocational and general education. The purpose of the study visits and transnational collaboration between the partners was to create opportunities for shared learning from national case studies and from their conclusions.

Research Procedures

The partnership represents a broad range of expertise: the researchers have examined the problems involved in parity of esteem from a multidisciplinary perspective, and their views have been complemented by the experience of school administrators and teacher educators. The descriptive and comparative data and the conclusions drawn from them were generated in cross-disciplinary groups and teams on one hand, and in transnational and international teams and pairs on the other. Reciprocal visits by representatives of (pilot) schools operating in partner countries have established exchange linkages between institutions involved in various upper secondary education experiments and reforms.

The project has progressed through joint seminars where the various European partners presented papers and debated them on the basis of their expertise and earlier studies, and where a corpus of shared material has been assembled. Procedurally the project has been a structured collaborative writing process where an interdisciplinary and international team of experts has developed their analysis of post-16 education and training in and through writing. The process advanced in stages according to tasks agreed upon together. The project team has collaboratively defined the key generative classifications, made decisions on joint collaborative writing tasks and constructed a picture of the different national policy settings for promoting parity of esteem. Through collaboration the project has gradually approached closer and closer to a comparative analysis while reaching understanding through mutual learning.

Findings

The project identified four strategies used in the eight upper secondary education systems for promoting parity of esteem between vocational and general education. These were (1) vocational enhancement, (2) mutual enrichment, (3) linkages and (4) unification.

Vocational Enhancement. The strategy of vocational enhancement emphasizes the distinctive nature of vocational education on the basis of its characteristic content and links between employers and the providers of vocational education. Esteem for vocational education is linked with the high standard of the content and pedagogy offered in vocational education

and training. The strategy is most closely associated with the systems in Germany and Austria. The reforms in these countries are based on a belief that vocational training can provide a path both to higher education qualifications and to employment. The conclusions drawn from the German strategy are based on a single local experimental reform, while the Austrian reforms are nationwide. In the German experiment an enhancement strategy is applied to the renewal of the pedagogy of vocational education by means of a bottom-up approach. In Austria, by contrast, the strategy involves a top-down reform of structures and certification.

Mutual Enrichment. In the Finnish and Norwegian reforms, vocational education institutions, enterprises and academic upper secondary schools cooperate with the aim of giving students a broader range of choices and offering them stimulating learning methods and environments. The strategy brings together the different types of schools by encouraging cooperation while simultaneously preserving their distinctive character. In Norway the strategy is being applied on a national level, while in Finland it is pursued in 16 localities. In Norway the aim has been to create a comprehensive upper secondary school and ensure vocational students a smooth transition from school to work on the system level. Teacher education has been reformed by combining the training of vocational and general subject teachers. Curriculum reform has led to a restructuring of study programmes and improved opportunities for vocational students through one year of on-the-job training. In Finland the strategy involves increasing student choice beyond the boundaries separating vocational and general upper secondary schools in the localities. The essential basis of the reform is to facilitate cooperation between vocational and general upper secondary schools. The practical implementation of the strategy depends on collaboration between schools and teachers and on attracting the interest of students and gaining the support of their parents.

Linkages. Countries representing the linkages strategy have made vocational and general education formally more equal by linking both to a common qualification structure. English and French educational systems which have traditionally fostered elitism by emphasising only academic studies for the few are now attempting to make vocational education more attractive and to raise its status in relation to general education. In France the emphasis of the *Baccalaureat professionnel* is on improved employment prospects. In England, again, the main focus has been on enabling students on the new vocational programmes (GNVQs) to have access to university on terms similar to those available to A-level students.

Unification. Under the unification strategy vocational and general education are merged into one another to create a single post-16 education system. It is believed that requiring all students to study certain common general subjects will provide them with equal opportunities to engage in further studies, a factor that determines the attractiveness of different qualifications. Sweden and Scotland represent unified systems where the aim is to abolish the distinction between vocational and general learning. However, unification strategies are not necessarily identical. The comparison demonstrates one possible dimension of their variation, for while Sweden emphasizes uniformity of treatment and outcomes for all students, in Scotland the stress is, instead, on providing choice among a flexible range of opportunities.

Although the four strategies are not pure types and although developments in most countries include examples of more than one strategy, they have served as a useful analytic tool for studying current reform measures. The project's focus on individual strategies and two-country comparisons has brought out the importance of the different forms that each strategy can take in different countries. This reflects the different reform priorities and the different strategic perspectives arising in work-based and school-based vocational education systems. Further, even in a country where a particular strategy is dominant, it is the strategic mix involved in any national reform that is important. Moreover, strategies and emphases may differ on different levels; reforms may, for example, be unifying on one level but have features of mutual enrichment on another.

After the intra-strategy comparisons had been completed and their results and the findings of remappings of national strategies had been obtained, the team moved on to inter-strategy comparisons. They provided a useful comparative summary of developments in post-16 education and training in each country, yielding a more specifically national picture than the two-country comparisons of the four strategies as well as some evidence from which to draw conclusions about trans-European developments. The trends thus identified suggested that as well as moving within a tracked-unified continuum, there are some indications that the different systems are also changing from a sharp division of labour between vocational and general education towards a more collaborative educational provision and that this will lead to a more reflexive approach to pedagogy, relationships between organisations, the role and professional development needs of teachers and methods of supporting and extending student choice as well

as to the realization that such reforms are unlikely to prove viable unless they have full local and practitioner support.

The project raised the significant issue of exclusion and inclusion which, however, could not, due to pressures of time, be exhaustively discussed during its term. Nevertheless, the project was able to conclude that countries with a strong tradition of vocational education and training are also characterized by a high rate of inclusion (cf. Austria, Germany, Finland and Norway). Of the four strategies, enhancement and enrichment are best able to prevent exclusion. By contrast, both the linkages strategy and the Scottish model of unification have failed to pay enough attention to the prevention of exclusion.

In addition to revealing a range of alternative post-16 education strategies to promote parity of esteem between vocational and academic education in Europe, and measuring the distance between those strategies, the project's comparative analysis of initial vocational education and training has also drawn on conceptual frameworks. The theme given to the project by the Commission of the European Communities, parity of esteem, proved an important developmental issue in the educational systems of nearly all the eight countries and made the researchers, teacher educators and civil servants participating in the project more aware of the significance of the phenomena surrounding the issue of the attractiveness of initial vocational education. The study has, further, generated materials for working out implications for the development of educational policies.

PREFACE

Research on and development of vocational education and training has failed to gain a status within the academic community in accord with its importance. However, the scope of vocational education and training is global and wide-ranging, and it is increasingly seen by governments as a tool for active labour market policy. A nation's economic growth is crucially dependent on the quality of its initial and continuing vocational education and training. Training helps young people to enter the labour market and promotes the re-employment of adults. Given that they are economies characterized by relatively high wages, vocational education plays a uniquely important role in the educational systems and human resource development of most member states of the European Union. From a pedagogic point of view vocational training offers learning environments and methods, alternative to those available within the main school system. However, there are problems arising from the disparity between the esteem enjoyed by vocational education and training and by academic/general education. This book, presenting the final results of the Post-16 Strategies project, is a response to the problem of disparity. It was only made possible by the support given by the European Commission under the LEONARDO da VINCI Programme, by the Finnish Ministry of Education and by the project partners.

The LEONARDO da VINCI action programme is the European Union's Vocational Training Programme. The funds of the first Programme have been allocated for the period 1995-1999. The LEONARDO da VINCI Programme has gathered together the earlier activities of the Force, Comett, Petra, Eurotechnet and Iris programmes. The new programme reinforces EU's educational policies and brings them closer to the actual practice announced in the Treaties of Rome and Maastricht and the Commission's White Papers on general policy ("Growth, Competitiveness, Employment: The Challenges and Ways Forward Into the 21st Century", 1993), on education ("Teaching and Learning: Towards the Learning Society", 1995) and on raising innovative capacities in Europe ("Green Paper on Innovation", 1995). Introducing the concept of innovation into educational systems leads to the modernization of education and reforms of training methods.

The LEONARDO da VINCI Programme covers initial and continuing vocational education and training, including cooperation between universities and enterprises and links between the different areas of vocational training, as well as general cooperation between working life education and training. Because initial and continuing vocational and education prepare students for lifelong learning and are themselves part of it, they are potential alternative sources of the knowledge and skills that individuals in the course of their existence require to launch and maintain a working career and to manage their life. As a factor promoting lifelong learning vocational education and training play a role in preparing the next generation for working life and fostering economic growth.

One way of raising the status of vocational education in an increasingly international community is to ensure that vocational qualifications enable their holders to work and build themselves careers in other countries. Exchanging knowledge and experiences between vocational education and training systems in Europe promotes the mobility of the workforce and brings benefits to all partners. The European dimension of vocational education and training becomes intelligible when the various national systems of initial vocational education are understood. Comparability of qualifications depends, in part, on each country's familiarity with the educational systems and standards of the other countries.

The projects that applied for financial support under the Leonardo da Vinci Programme in 1995 were divided into four strands. One of them, Strand III, included the section Surveys and Analyses, where the present study belongs. The goal of the relevant priority area is improving the quality and innovation capacity of the vocational training systems in the participating countries by enhancing the attractiveness of and parity of esteem for initial vocational education.

The contributors represent the educational systems of eight nations while their professional backgrounds cover different areas of expertise and academic learning. They use a common conceptual framework to describe and compare upper secondary education strategies developed to promote parity of esteem between vocational and academic/general education in the context of the educational traditions and social values of each country. Comparisons revealed both inter- and intra-strategy differences and similarities. The objective of this final report is to make the findings and conclusions of the project intelligible to people in different countries in order to develop a common frame of reference for investigating vocational education across the whole of Europe.

The outcomes of the project consist of an interim report (Lasonen, 1996) and this final report (Lasonen and Young, 1997). The books have primarily been intended for those who are engaged in teaching, research, administration and decision-making in the areas of general upper secondary education and vocational education and training.

Acknowledgements

This is the final report of the Leonardo da Vinci Strand III.2.a., Surveys and Analyses project *Post-16 Strategies*. The project (ID 3901) has been carried out with the financial support of the Commission of the European Communities under the Leonardo da Vinci Programme. The Finnish Ministry of Education and the project partners have also made a vital financial contribution. The book is the outcome of the activities of a research team coordinated by Dr Johanna Lasonen. Here, as the Coordinator of the project, I take the occasion to thank Dr Michael Young who, in addition to his participation in the national and comparative teamwork, made a valuable contribution to editing the present publication. Thanks are also extended to Mr. Hannu Hiilos who has carefully proof-read the book and revised its language.

The project team has brought together 11 partners representing 8 nations. Some 25 people have taken part in elaborating the themes analysed by the project and in writing its reports. If we also include technical and administrative personnel, there are at least three times that number of people who have contributed to the success of the project. Below is a list of the partner institutions country by country:

Austria: Industriewissenschaftliches Institut, IWI, Wirtschaftsuniversität Wien [Institute for Industrial Sciences, Vienna University of Economics]
Institut für Berufs- und Erwachsenenbildungsforschung, IBE, Johannes Kepler Universität Linz [Institute for Vocational and Adult Education Research, University of Linz]

England: Post-16 Education Centre, Institute of Education, University of London

Finland:	Koulutuksen tutkimuslaitos, KTL, Jyväskylän yliopisto [Institute for Educational Research, University of Jyväskylä]
France:	Centre International d'Études Pédagogiques, CIEP, [International Centre of Pedagogical Studies], Sèvres Institut National de Recherche Pédagogique [National Institute for Pedagogical Research], Paris
Germany:	Institut Technik und Bildung, Universität Bremen [Institute for Technology and Education, University of Bremen]
Norway:	Högskolen in Agder [Agder Teacher Training College], Kristiansand
Scotland:	Centre for Educational Sociology, CES, University of Edinburgh Scottish Qualifications Authority, SQA, (formerly SCOTVEC), Glasgow
Sweden:	Skolverket [National Agency for Education], Lund

Experimental and other educational institutions have worked with partner institutions to implement school reforms and to promote follow-up. The project also included stakeholders' study visits with the purpose of creating exchange links between such schools. Representatives from some 18 educational establishments familiarized themselves, through reciprocal visits, with another country's post-16 education. I wish to thank the following institutions and companies for participating in or organizing these study visits: Technikum Voralberg and Berufschule Bludenz from Austria; Tornio Institute of Business and Data Processing, Kemi-Tornio Polytechnic, Vocational Institution of Western Lapland, Putaa General Upper Secondary School, Outokumpu Polarit Steelworks, Salo Vocational Institution, Salo Municipal College of Nursing, Halikko General Upper Secondary School, Lauri General Upper Secondary School, Halikko College of Arts and Crafts and Nokia Business from Finland; Tower Hamlets College and South Thames College from England; Rönnowska School and Helsingborg Office of Education from Sweden; Inverkeithing High School and Lauder College from Scotland; Kvadraturen Upper Secondary School from Norway; Schwarze Pumpe Vocational School and Claude Dornier School from Germany; and Lycée Oehmichen and Academy of Dijon from France.

The systematic and active monitoring of the project by Mr. Pekka Kämäräinen from the European Centre for the Development of Vocational

Training (CEDEFOP) and by Ms. Ulla Numminen from the Finnish National Board of Education has helped its information dissemination activities and put it in a broader national and European context. Mr. Kämäräinen's reflective approach to this task has built bridges leading to constructive cooperation with other European projects and their partnerships. We wish to thank Coordinator, Dr Sabine Manning from WIFO, Germany, of the INTEQUAL project for fruitful collaboration. Mr. Kämäräinen and Ms. Numminen made a significant contribution to the interim report of the project. The final report was enhanced by a thoughtful commentary on parity of esteem and the Post-16 Strategies project by Mr. Olli Poropudas from the Finnish Ministry of Education.

The Post-16 Strategies project has been coordinated by the Institute for Educational Research based at the University of Jyväskylä, Finland. Director Jouni Välijärvi has given the project valuable technical, administrative and advisory support. Dr Erkki Kangasniemi, Chair of the Advisory Committee, made a valuable contribution to the final stage of the project. The Publication Unit of the Institute has prepared the book for publication and been responsible for its printing. The financial support of the Finnish Ministry of Education has been indispensable and has ensured the success of the project's coordination in Finland.

The book is divided into nine chapters. The first chapter introduces the Post-16 Strategies project. The second chapter discusses the theoretical and conceptual assumptions underpinning the project's empirical findings. The next four chapters present the country-pair comparisons strategy by strategy. These intra-strategy comparisons are followed, in the seventh chapter, by inter-strategy comparisons on the basis of a system of content categories. The two last chapters eight and nine discuss the Post-16 Strategies project as a shared learning process and set out its conclusions.

Johanna Lasonen *November 1997*

Purpose and Function of the Study

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Parity of Esteem in National Contexts

The Post-16 Strategies project has arisen as a response to the current challenges involved in improving the transparency and recognizability of European educational systems. The goal of the LEONARDO da VINCI programme is the promotion and encouragement of the quality and innovative capacity of national systems of vocational education so as to raise European educational and skill levels and guarantee opportunities for lifelong learning. The focus of this project is examining issues related to the status of vocational education as an aspect of European upper secondary education.

In most European countries vocational education is an essential part of upper secondary education. However, the organization of initial vocational education in different countries varies widely. For example, Austria and Germany have work-based system while Finland, France, Norway, Scotland and Sweden have school-based systems. England and Wales have had a mixed system which is increasingly taking on the character of a school-based system. In this context, Kämäräinen (1996) has identified a number of alternative strategies for achieving parity of esteem between general/academic and vocational education in Europe. He distinguishes between two forms of general/academic provision: those that are comprehensive and unified and those that are highly selective and divisive. In relation to vocational education he described three types of system: educationalist, professionalist and multi-purpose. The forms of organization and the attractiveness of vocational and general education are linked to these different types of system.

Building on this work, the different strategies underlying existing post-16 education reforms are reconsidered against policy goals of eight European nations. Educational reforms are tied to a variety of social and cultural developments. Reforms aim to facilitate the realisation of national educational policies and goals. However, this can be more or less successful on different levels; for example, organisation and delivery, curriculum and assessment, pedagogy.

In their parallel search for post-16 education strategies to promote parity of esteem between vocational and general education, the eight nations are driven and constrained by both common and specific problems and constraints. A disparity of esteem between general and vocational education is a feature of all European systems. In Austria and Germany, where vocational education is based on a dual system, students are losing interest in vocational training, and enrolments are falling. It is still more difficult to enter higher education via the vocational route than through general education. In the Nordic countries students choose vocational education almost as often as general education. Nevertheless, vocational education is less highly valued and visible than general education. Reforms of vocational education are less likely to receive public research and development funds than reforms in general education. Partly because of their background in general/academic education, researchers and decision-makers are inclined to allow the work of developing vocational education to be eclipsed by general education. However, in France and the UK attempts to find employment for a diverse population have involved endeavours to make vocational education more attractive.

The aim of the Post-16 Strategies project was to examine and compare the educational strategies applied, with a view to improving the attractiveness of vocational education and promoting parity of esteem, in the upper secondary education systems of six EU member states and Norway. In four countries (Finland, Germany, Norway and Sweden), cooperation with pilot schools is among the means adopted to promote reform. Study visits to (pilot) schools were used in the project to promote collaboration between research institutes, educational agencies and schools. Thus the project has reinforced existing networks between teachers, administrators and researchers, and given an impetus to create new ones.

The goal of the first phase of the project was to describe the status of initial vocational education, survey post-16 education reforms undertaken in eight European educational systems and sketch out the problems associated with the lack of attractiveness of vocational training and its lack of

parity of esteem with general education. On the basis of these descriptions and analyses four alternative reform strategies to promote parity of esteem were identified (see Lasonen, 1997). The aim of the second phase of the project has been to compare, within and across the four strategies, the dimensions of upper secondary education reforms within the strategies dominant in each of the eight educational systems. This book is, therefore, looking for answers to the following two questions:

1. How much variation is there in the different post-16 education strategies?
2. What are the future directions of Europe-wide development in post-16 education to promote parity of esteem?

The initial assumptions of the study reflect the links of the phenomenon under study, parity of esteem, with the way in which the problem has been formulated within different social, economic and cultural contexts. There are two kinds of assumption that may be seen as contradictory or complementary. The first assumption is based on the preconditions of promoting parity of esteem and on the distinctiveness of vocational and general education. Both forms of education are seen as having their own inherent value and their distinct identity. The second assumption is based on the argument that the separation of vocational and general programmes promotes divisions between students. It follows that divisions can only be avoided by integrating or unifying vocational and general education.

Networking

Networking enables administrators and researchers, who often share an academic educational background, to enter into genuine cooperation with vocational educators and institutions. The aim of such collaboration may be mutual exchange of information or the gathering and generation of new knowledge. Networks are thus created to foster the emergence of socially shared knowledge constructed from individuals' personal experience. The partnership team of the present project included representatives from both the academic and the practical world. The partnership comprises researchers, administrators and teacher educators. In addition, researchers from four partner institutes have worked closely with the pilot or experimental schools involved in the project.

The purpose of networking between vocational and academic/general education and working life is the enrichment of vocational and academic/

general education programmes through mutual cooperation. Such cooperation may involve various educational establishments and their teachers and students. The starting point is to promote equal esteem for different learning contents. While general education is being incorporated into vocational programmes, it is also worth asking whether academic/general programmes could in turn be enriched with vocational elements.

Networking Initial Vocational Education and Working Life. A crucial feature of vocational education networks are their connections with the world of work for which they prepare students. The nature, scope and intensity of the relations between education and working life vary from one educational system to another and in different parts of each system. Although work-based systems may be able to organize the alternation of classroom and on-the-job learning better than school-based systems, smooth collaboration between teachers and trainers cannot be taken for granted. Because the goals, methods and personnel of education and working life are different, cooperation networks are needed to foster mutual understanding and to ease student transitions from school to work. Cooperation between school and working life may be combined with endeavours to integrate theory and practice and to recognize the pedagogic importance of "learning by doing" (see Poropudas in Appendix I). Even though the dual system offers a good environment for work-based learning, it is not the only one. Vocational education located within the regular educational system has many other methods of linking to the world of work in addition to actual on-the-job training. For example, the Finnish school-based vocational education and training curricula ensure that students spend two thirds of their learning time in work-based training. In the dual system students are guided in their work-based learning by trainers, in the Finnish system by teachers. Students gain work-based learning experiences through job shadowing, structured training, simulated work experience, mentoring on job sites, cooperative education, school-supervised work experience, apprenticeship etc.

Heidegger (1997) has argued that workplaces are shaped by human choice and by the actions of those who work in them. Workplaces provide incentives for workers to learn and use skills. Learning at work is also a social activity shaped by organizational and work-related contextual factors. Learning to shape working life in both school-based and work-based learning environments also helps students to see the value of lifelong learning.

Post-16 Education

In this study post-16 education is defined primarily as upper secondary education that includes both initial vocational and general/academic education. Initial vocational education and training is formal education delivered through programmes that are publicly financed and administered and that prepare individuals for employment in current or emerging occupations and, explicitly or not, for citizenship. Certificates or diplomas are granted to those who complete a programme, and this often enables them to proceed to higher levels of education.

In the field of general education there is a much clearer conception of what kind of further education qualifications students are acquiring. By contrast, those responsible for organizing and delivering vocational education still prefer to see it as the training of the labour force to become appliers of working methods and users of tools. However, initial and continuing vocational education are not separate stages in the learning career of an individual but form, instead, an ongoing educational process involving not only adaptation to working life but also the development of a person's identity as a citizen.

Selected Cases of Reforms and Strategies as Data

European countries have their characteristic national systems of upper secondary education, within which the status of vocational education and training varies. The partners represent eight different educational systems: Austria, England, Finland, France, Germany, Norway, Scotland and Sweden. In the Austrian, German and Finnish educational systems, vocational education and training has played an important role in preparing workforce and in promoting economic development. By contrast, in the Scottish and English systems the standing and status of vocational training has been low. In comparing these eight upper secondary education systems the Post-16 Strategies project attempted to capture the European dimension of post-16 education by describing the characteristics of different strategies used to improve parity of esteem between vocational and general education.

The reforms to be analysed differ in their scope and extent. The Austrian, English, French, Norwegian, Scottish and Swedish reforms are nationwide. Unlike the other, ongoing reforms, the Scottish Higher Still is yet to be implemented. The German research is based on one pilot site while in Finland the reforms are being run in 16 localities.

The Austrian reforms focus on the introduction of Professional Higher Examination (*Berufsmatura/Fachmatura*) and on establishing a system of polytechnics (*Fachhochschule*). Those completing apprenticeship training will also be able to gain university entrance qualifications.

The English and Welsh reforms focus on the National Qualification Framework defined in the Dearing Review as comprising school-based and work-based routes (A levels, GNVQs and NVQs). Since 1991 academic and vocational qualifications have been described officially as "separate and equally valued". In this context the concept of parity of esteem refers to formal equivalence.

The programme of the French *Baccalaureat professionnel*, created in 1985, is not equivalent to the traditional academic programmes but it is designed to be more attractive to students than the other vocational programmes. Furthermore, the *Baccalaureat professionnel* has common features with the Technological and General Baccalaureates.

The Norwegian and Swedish reforms that established comprehensive upper secondary schools were introduced in 1994. Academic competencies were extended to vocational students by introducing more general subjects into vocational programmes. Cooperation with working life has been developed along with giving vocational students more hands-on experience. The Norwegian reform affects both educational structures and curricula, while the Swedish reform is mainly structural in emphasizing unification. During their three-year training Norwegian vocational students are able to alternate between school-based and on-the-job training (the 2+ model). Norway has also started training vocational and general upper secondary school teachers in common teacher education programmes. The Swedish reforms emphasises uniformity of treatment and common outcomes for all students. Scotland's forthcoming (to be launched in 1999) Higher Still is a nationwide and systemic reform.

The Finnish "youth education reform", begun as an experiment in 1992, has broadened the range of qualifications available, especially to vocational students. Students' freedom of choice has been increased by developing collaboration between local groups of vocational and general upper secondary schools. The reform is being piloted in 16 localities, comprising

about 20 per cent of the starting places offered in vocational upper secondary schools and about 12 per cent of those available in general upper secondary schools yearly.

The Schwarze Pumpe Project in Brandenburg involves about a hundred students. The Brandenburg Model Project focuses on bottom-up, process-oriented reforms within the dual system. It aims to modernise the vocational education curriculum and pedagogy to take account of changes in society and on the workplace. The Schwarze Pumpe project aims to qualify young people for higher education as well as for employment by exploiting the potential of modern vocational training to develop, in students, the capacity to study. The project also aims to lead to an level of education equivalent, in some respects even superior, to that delivered on the academic/general track of German upper secondary education.

The original purpose of the reforms chosen as national cases was not necessarily the promotion of parity of esteem. Each national reform was singled out for comparisons and analyses from among several other national-level reforms on the basis of whether it had any potential to promote parity of esteem.

Mapping the dimensions of the reforms undertaken in eight upper secondary education systems and comparing them yielded four alternative strategies for promoting parity of esteem: vocational enhancement, mutual enrichment, linkages and unification. The four strategies have been found to be useful analytic tools rather than representations of pure types of educational policy being applied in reality. The *vocational enhancement* strategy emphasizes the distinctive nature of vocational education on the basis of its characteristic content. Esteem for vocational education is linked with the standard of the content and pedagogy offered in vocational education and training. The German and Austrian reforms are based on the assumption that vocational training can also open students a path to higher education qualifications. In the strategy of *mutual enrichment* represented by the Norwegian and Finnish reforms, vocational education institutions, enterprises and general secondary schools cooperate with the aim of giving students more choices and more stimulating learning environments. The strategy brings together different types of schools on one hand and school and work on the other while still preserving their distinctive character. England and France, representing the *linkages* strategy, have made vocational and general education formally equal by linking both to a common qualification structure.

These three strategies aim to maintain a distinct identity for vocational and general education. Under the *unification* strategy, by contrast, vocational and general education are merged into one another until they make up a unified post-16 educational system. Sweden and Scotland represent such unified systems where the goal is to abolish the distinction between vocational and general learning as such.

Methods and Procedures

In a training programme, such as LEONARDO da VINCI, methods and procedures are considered from two viewpoints. The first point involves finding methods to generate, in the most effective way possible, that which is being sought, new knowledge about vocational education that may help to promote parity of esteem. The second consideration covers the collaborative working methods that will ensure the meaningful interaction of an international and multi-lingual team of partners.

The purpose of the project was to survey and analyse, in the course of two years, the recent or forthcoming post-16 education reforms within eight European upper secondary education systems. The criteria for selecting the reforms to be analysed was the extent to which they were designed to lead towards parity of esteem.

The methodology drawn on in this transnational project had five main features. (1) The partnership as such, the project team as a collective, has been an essential aspect of the project. The team has collaboratively defined the classifications, made decisions on joint collaborative writing tasks and constructed a picture of policy settings for promoting parity of esteem. (2) Through collaboration the project has gradually approached closer and closer to comparative elements while reaching understanding through mutual learning. (3) The descriptive and comparative data and the conclusions drawn from them were produced in cross-disciplinary groups and teams on one hand, and in trans-national and international teams and pairs on the other hand. (4) The teams consisted mainly of the researchers, but included also teacher educators and administrators. The degree of collaboration between the researchers and pilot schools varied. However, reciprocal study visits were paid between partner countries. (5) The outcomes of the project have been produced in and through a collaborative writing process based on team members' expertise and previous studies.

Means of Collaboration

To ensure that a multicultural research team achieves efficient and productive collaboration it is sensible to establish working methods that enable all parties to make an equal and reciprocal attempt to understand each others' educational systems. The multicultural nature of the partner team involves on the one hand the representation of different nations on it and on the other hand cooperation between producers and consumers of knowledge. Figure 1 presents the aims of the project's collaborative activities and the means used to approach them.

The method chosen to carry out the project is that of *a structured collaborative writing process* where an interdisciplinary and international team of experts worked out the results of its analysis in and through writing. The structured collaborative writing process advanced in stages according to tasks agreed upon together.

Collaborative writing is viewed as a way of knowing and learning to know through writing (Flower, 1994). This entails the assumption that knowledge of educational phenomena in Europe emerges in social interaction. Thus, writing is not just a private cognitive process and the production of text but also social action. For the participants, learning through collaborative writing is a social endeavour. The results of the work have been disseminated nationally.

Reflecting the strong social dimension of its approach to its subject, the project has been carried out in the form of *joint seminars* where the different European partners presented papers based on their expertise and earlier studies and where a corpus of shared material was assembled. Round-table discussions during the workshops have helped the collaborators to make comparisons and draw conclusions. The meetings of such a multidimensional team have been intense. Their organization is based on tasks defined in each working seminar for the period following it. Each meeting of the partners has opened a new phase in the ongoing implementation of the project.

Information dissemination may be seen as one of the project's modes of action because it has helped the project to reach its goals as Table 1 shows. The internal dissemination procedures of the project have been process-oriented and open. The external dissemination of its findings has focused on national and international target groups. Interaction with other parties has helped the project team to assess the project's significance and to place it in its national and international contexts. Interaction with comparable parallel projects and mutual learning between them and the Post-16

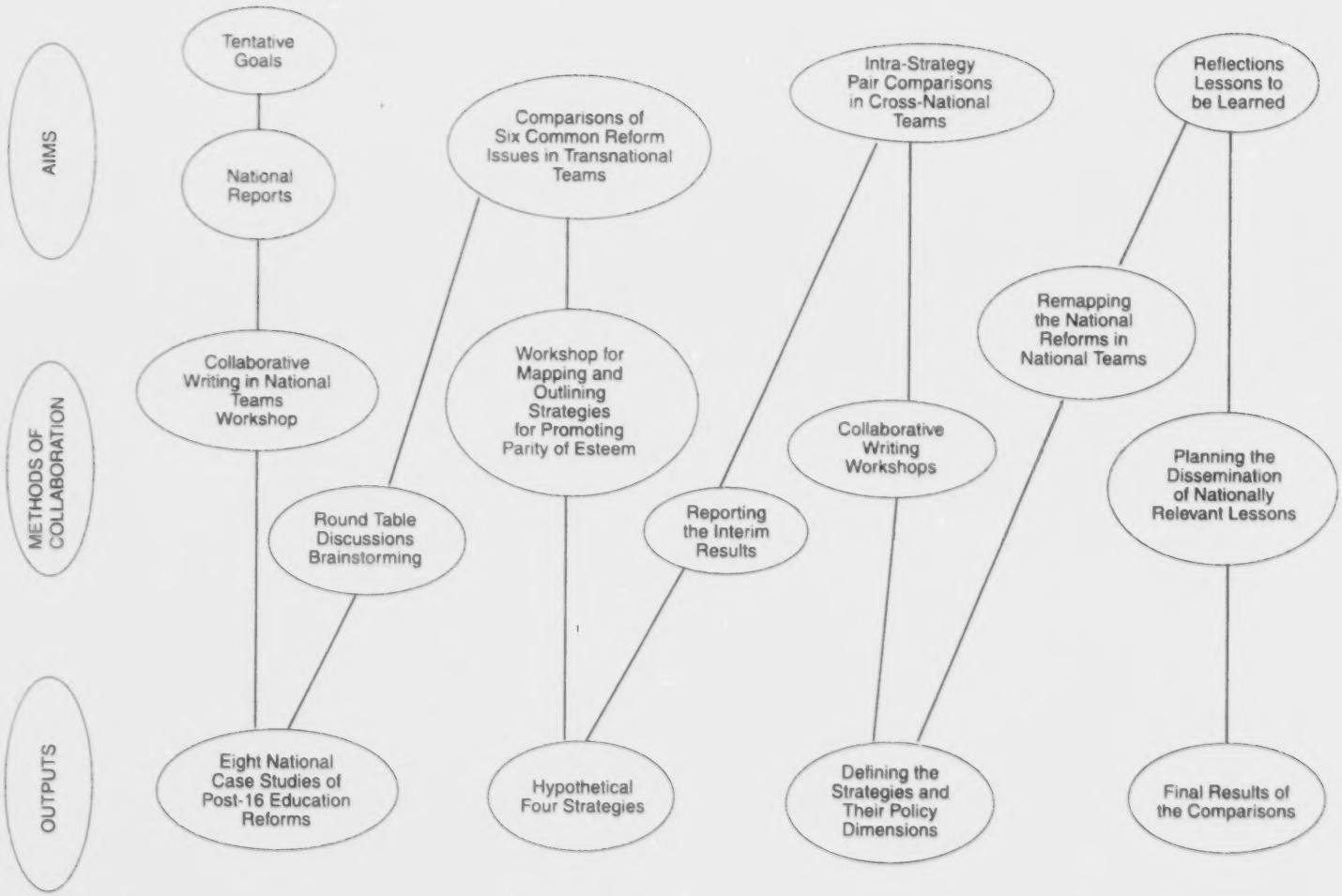
AIMS
METHODS OF COLLABORATION
OUTPUTS
Tentative Goals
National Reports
Collaborative Writing in National Teams Workshop
Round Table Discussions Brainstorming
Eight National Case Studies of Post-16 Education Reforms
Comparisons of Six Common Reform Issues in Transnational Teams
Workshop for Mapping and Outlining Strategies for Promoting Parity of Esteem
Hypothetical Four Strategies
Intra-Strategy Pair Comparisons in Cross-National Teams
Reporting the Interim Results
Collaborative Writing Workshops
Defining the Strategies and Their Policy Dimensions
Reflections Lessons to be Learned
Remapping the National Reforms in National Teams
Planning the Dissemination of Nationally Relevant Lessons
Final Results of the Comparisons

Figure 1. *Aims and Means of Collaboration for Post-16 Strategies Project in 1995-1997*

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Table 1.
Functions of the Dissemination by its Scope

Scope of dissemination	Project work	
	Initial phase	**Final phase**
Internal dissemination	Creating an identity for the partnership Outlining the common goals	Inter-strategy comparisons Reflections Mutual learning
National dissemination	Establishing national networks Informing the target groups of the project Making study visits	Discussing good practices to be transferred to different target groups
International dissemination	Establishing relevant cross-project collaboration Surveying forums for presentations and articles	Adjusting the project to the framework of European VET research Communicating with international audience

Strategies project would merit a separate study. In the different stages of the project dissemination has served the project and its target groups in different ways.

Reciprocal visits by representatives of pilot schools operating in partner countries have been used to establish exchange linkages. Study visits, even if only to a limited degree, add a third dimension of cooperation; that between those who make and those who implement decisions about educational policies. Study visits also made the project known in the schools involved. Thus the visits promoted national and international dissemination of the relevant information. (see Table 1).

The *cross-national study visits*, in autumn 1996, by practitioners involved with the reforms in pilot schools or other institutions provided information about actual teaching/learning arrangements and exposed the problems encountered applying the various strategies. The purpose of the stakeholders' study visits was to create transnational linkages between experimental and pilot schools and researchers that will enable them to learn from each other's experiences and prepare the ground for future exchange pro-

grammes and possible future pilot projects. The purpose of the collaboration between the researchers and the stakeholders was to evaluate the experiences that the experimental schools have gained from linking school-based and on-the-job training in vocational education, from integrating vocational and academic/general learning, and from institutional and teacher collaboration (see a study visit report in Appendix III).

A transnational approach of this kind, which may also be characterized as a constructionist approach based on semi-comparative case studies, was found to have some advantages. The study visits and collaborative writing in a multilingual and multicultural team combined with round-table discussions during the workshops fostered mutual understanding and promoted shared learning.

Towards a Comparative Method

The first workshop and writing assignment of the project focused on recent, ongoing and forthcoming reforms, experiments and pilot projects involving post-16 education to improve the parity of esteem. Preparation of the *national reports* was guided by the following tasks:

- surveying educational experiments and/or developmental projects in post-16 education including educational policy goals and strategies to improve parity of esteem for initial vocational education;
- viewing post-16 education as an aspect of the national educational system;
- identifying policies and strategies underlying the relevant post-16 educational reforms; and
- possibly designing a programme of work for evaluating developmental or experimental projects and setting up a network with a local/national educational unit.

However, it was agreed during the first workshop that the project should not aim at compiling national reports as its main result. Even though the national contexts of delivering initial vocational education differ, all have been involved with the goals of improving parity of esteem for initial vocational education and developing the links between vocational and academic/general education and between education and working life.

The national reports were *reconstructed and reworked according to a set of six common priority themes* that were defined as a result of metaplanning

using a brainstorming method. In their further analyses, comparisons and evaluation the partners explicitly compared the reforms and their relationships to the six common themes. The common themes agreed on were:

- parity of esteem (indicators of the relative attractiveness of academic/general and vocational education, mutual exchange value of diplomas gained from general/academic education and vocational training);
- the labour market context (matching VET provision to labour market needs, future skills, lifelong learning, core / key / transferable skills);
- the educational system (reform priorities of national systems, system and structural vs. school and learning processes, models of implementing changes, static vs. dynamic strategies);
- local networking/linking between schools and between schools and working life to find new forms of learning for future skills (developments in work-based learning, new study and learning methods, networking with working life and enterprises, regional development, integration between general education and various forms of specialization);
- teacher education or/and teachers' co-operation supporting the reforms (models for academic and vocational teachers' collaboration, vocational education reforms and teachers' pre-service and in-service training, combining teacher education with the upper secondary school system); and
- qualifications, flexibility of student programmes and curriculum development (study lines vs. study programmes, academic/general studies inside vocational education, core / key / process / transversal qualifications and the curriculum, labour market requirements and curriculum development).

During the second workshop *each theme was compared across and against the reforms implemented in the eight national educational systems by partners working in country pairs.* The paired partners introduced and compared one theme before the audience of the other partners. The further elaboration of each theme was reported as *conclusions drawn from the comparisons yielded by the four post-16 education strategies.*

The purpose of the next phase of project work was to provide a maximum degree of scientific and action-oriented support to the four strategies for post-16 education being applied in various contexts in Europe. The work entailed collaborative comparisons and analyses of the four post-16 strategies.

The aim of the writing task was to compare and review the four reform strategies for parity of esteem in relation to the partners' eight different post-16 education systems. To prepare *the comparisons and reviews of the four*

strategies the partners worked in country pairs representing two different cases within one strategy as follows:

- the Austrian and German partners: the strategy of vocational enhancement;
- the Norwegian and Finnish partners: the strategy of mutual enrichment;
- the English and French partners: the strategy of linkages;
- the Scottish and Swedish partners: the strategy of unification.

Each strategy paper included the following subsections; their contents were discussed against the background of the previously defined common themes/issues:

- the context, such as the educational system and the labour market, of the given strategy for enhancing pa y of esteem;
- the purposes and aims of the strategy;
- the rationale and definition of the strategy (Why was this strategy and the reforms linked with it chosen? How has it been expected to address perceived problems and faults? What is the strategy in question?);
- the experiences gained from the reforms that make the strategy in question distinctive;
- the progress of the strategy in improving parity of esteem for initial vocational education, including a description of any outcomes and research results to date;
- the innovations involved in the strategy and related reforms; and
- the problems encountered (e.g., conflicts between different educational traditions and cultures).

The purpose of the collaborative writing assignment prepared for the third two-day workshop was to serve as a basis for reviewing the findings so far to decide whether the four hypothetically identified strategies were applicable to further analyses of the eight national reforms.

After an analysis of the country-pair comparisons and a general discussion, the four hypothetically identified strategies were accepted for further comparisons and analyses in the same country-pair teams. Each team prepared a final draft of its strategy comparison and analysis to be presented and discussed at the fourth workshop. In addition, each paper covered the following issues:

- networking (including collaboration with enterprises);
- flexibility of study programmes (student choice);
- key qualifications, future skills, certification;

- teachers' professional development; and
- types of learning/knowledge.

In their discussions of networking the country-pair teams were asked to look for answers to the following question: what is the best case of networking involving the strategy you are analysing? The papers of the Interim Report (Lasonen, 1996) revealed that most national reforms were grappling with the issue of key/core qualifications/skills and the flexibility of study programmes. The writers of the strategy papers were asked to explicitly search for answers to the question: what key qualifications are included in each post-16-education strategy? Further, what kind of solutions are available for promoting flexibility in study programmes? Discussions of teacher education focused on teachers' professional development and teacher collaboration related to the given strategy. Possibilities for taking up other issues, such as the prevention of exclusion, dropping-out and youth unemployment, were also opened.

Shared Learning

After receiving four strategy papers each national team undertook to prepare a Lessons section consisting of two parts: comments on the other partners' three strategies (policy aspects), and six lessons and questions arising from the other teams' experiences (practical aspects). The focus was on *the lessons and questions received from the other partners*. The partners were asked to assume the role of an observer while commenting on the distinctive and noteworthy features of the strategy assigned to them for analysis, and to find out its critical points and problems. This section concentrated on the outcomes of shared learning and on reviewing what could possibly be borrowed from the other partners' experiences. The analyses were shifted from intra-strategy to inter-strategy comparisons as Figure 2 shows.

The focus of the final phase of collaborative work was re-examination of and critical reflection on where the project had got to. The second look at the four strategies meant comparing the relations between different strategies *by analysing each strategy once more against a common conceptual map*. The partners reviewed their strategies in the national teams against the criteria that are presented in Appendix II (Remapping the National Strategies). Responses were compared across all four strategies with a view to analysing how far the strategies are distinctly different and how far they have features in common with each other.

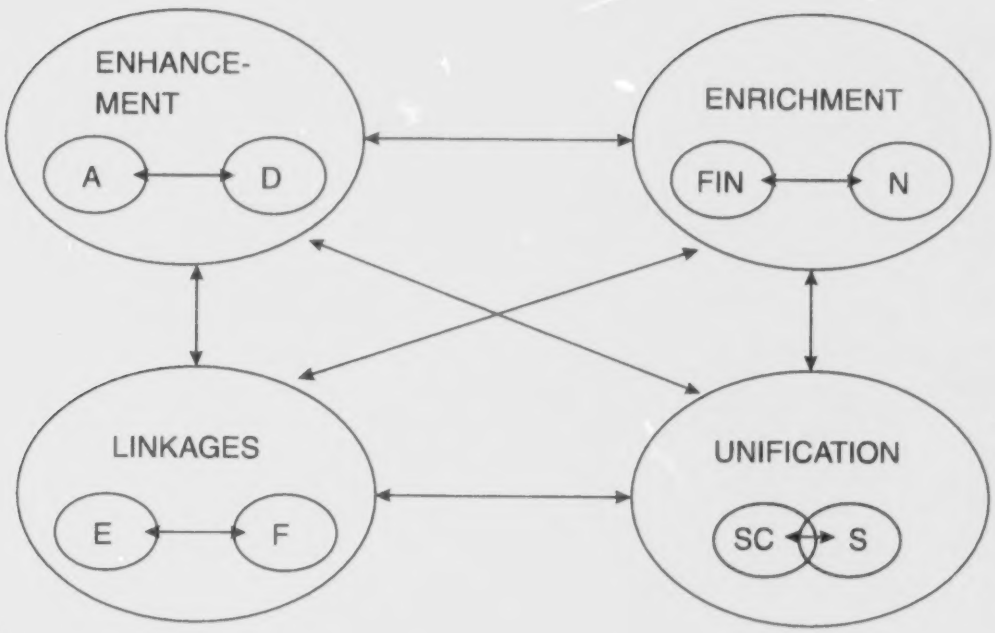

Figure 2. *Intra- and Inter-Strategy Comparisons*

The comparisons of this research have proceeded through joint structured and collaborative writing assignments. Figure 3 (overleaf) displays the contents of both the interim report and the present book. The interim report documented selected national reform cases and transnational comparisons of common issues related to the reforms investigated by the Post-16 Strategies project as data for further analyses and comparisons (Lasonen, 1997). The four strategies were identified for use as analytic tools. An overview of the four strategies is followed by four intra-strategy comparisons in country pairs. Inter-strategy comparisons begin with analyses of responses to remapping the national strategies, included in a chapter of their own. The results of the partners' collaboration, their shared learning, are discussed in terms of cooperation and impacts on the national level and as lessons learned from other countries. The final conclusions of the study are based on comparisons of comparisons, in other words on intra-strategy and inter-strategy comparisons.

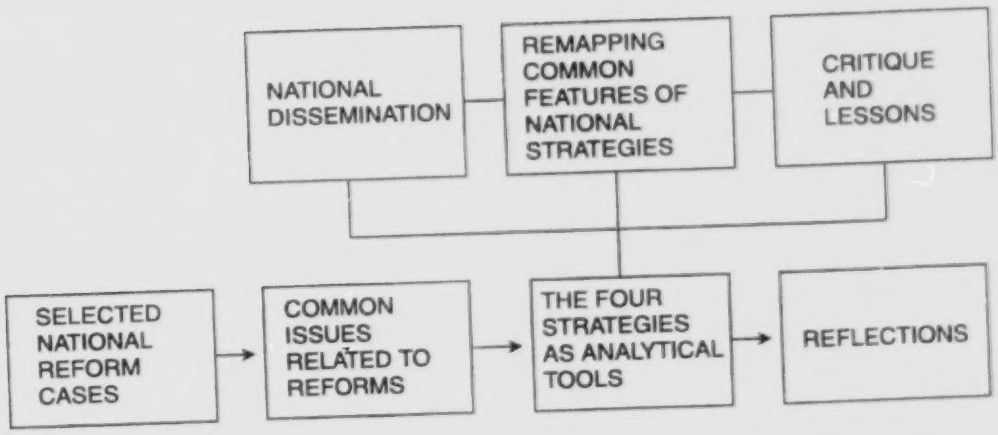

Figure 3. *Comparison Proceedings*

Limitations and Problems of the Research Approach

In this project "surveys and analyses" do not refer to survey studies of first-hand empirical data but to transmitting a general picture or drawing a map of a number of educational reforms, and to detailed interactive and iterative comparisons of the common themes and issues involved in the reforms and strategies. As the project has advanced and the collaborators have become aware of each others' areas of expertise and expectations, their discussion could have turned to the use of action-oriented evaluation methods. However, shared experiences were not exploited to evaluate the results of reforms implemented in the pilot schools. Instead, the interdisciplinary expert team assessed national educational policies and analysed reforms in national post-16 education systems located in varying economic, cultural and social contexts.

As they learned to understand each other better, the partners were able to define the project's goals in sharper detail. Achieving the project's aims has depended on the range of expertise represented in the team of collaborators, their working styles and methods, project management and mutual understanding. The international composition and diversity of the collaboration team is an important aspect of the project. However, gaining mutual

understanding, working towards shared goals and exploiting the results of mutual learning take longer than two years. To achieve the chosen goals it is essential to create and pick meaningful and effective working and communication methods geared to the needs of multilingual and multicultural collaboration.

The project has advanced according to a jointly agreed schedule shared by all team members and through collaborative writing in cross-national teams. There were some problems with the partners' differing degrees of commitment to collaboration and, as a result, with the distribution of the workload. More time would have been needed for condensing the great amount of text generated during the collaborative writing process.

The methodology of the study and especially its classification of the seven countries and eight educational systems involved into country pairs determined how detailed the comparisons were able to be. Completed analyses have revealed that country-pair comparisons may exaggerate intra-strategy differences and understate inter-strategy differences. Some mitigation of this drawback is sought by discussing the mutual learning lessons derived from the project's comparisons and analyses and by recording the knowledge thus generated. However, the purpose is not to draw generalizable conclusions from the results of the project in the form of European models of school reform. Rather, the findings enable each partner to consider what lessons about promoting parity of esteem between vocational and general post-16 education may be learned from the project's comparisons of eight national post-16 education reforms.

The priorities of the project have been defined by the LEONARDO da VINCI Programme itself. The starting point is a goal defined on the level of the European Commission: the status of vocational education vis-à-vis general education must be improved. Given this priority, the European team of collaborators might have been expected to assess how successfully this particular educational policy goal is being implemented in the member countries. On the other hand, an international team makes possible an identification of approaches on the level of national school systems that may open a way to solving the problem presented by the inferior status of vocational education. Preferring the latter approach, the project team decided to abandon an assessment of the practical success of strategies for parity of esteem. However, its analyses of the national education policy settings, goals and contexts indicate the potential that each strategy has for promoting parity of esteem.

We hope that educators, researchers and makers of educational policy will find the book a valuable description of upper secondary education reform strategies for promoting parity of esteem.

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The Four Strategies for Promoting Parity of Esteem

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Similar Objectives, Different Strategies

European post-compulsory education and training systems face similar problems and pressures, and to address these problems they have introduced reform policies which have many objectives in common. Nevertheless, the specific reforms vary widely and appear to pursue distinct strategies. In this chapter we review the different strategies on the basis of the two-country reports presented below. We first identify the problems that the reforms are intended to meet, and list their objectives, and then describe the concept of strategies as developed in the Post-16 Strategies project. We then review the two-country strategy reports and conclude by considering questions about our initial concept of strategies and current developments in Europe.

The reforms respond to a range of educational, social and economic problems and pressures. Many of these educational problems are associated with the past and current expansion of post-compulsory education and training and with the academic drift that has accompanied this expansion. Young people have increasingly aspired to the higher-status general programmes, while many vocational programmes have struggled to attract students. Expansion has exposed or exacerbated many existing weaknesses of post-compulsory education and training. The new participants in education represent a wide range of learning needs and abilities, many of which

are not well catered for by existing provision. Much vocational education suffers from low status, outdated curricula and pedagogy and poor links with enterprises. Expansion, and the prolongation of study, has revealed the absence of progression pathways: programmes which have traditionally prepared students for direct entry to the labour market may provide few opportunities for progression to further education. Dead ends have become more visible.

Post-compulsory education and training systems have grown in complexity as well as in scale, and they must meet a wider and more complex set of demands and expectations; their coherence, flexibility and responsiveness become increasingly important.

Social and economic trends have created further new pressures on education and training. As society becomes more "individualised", students expect wider choice of courses and wish to be able to negotiate flexible pathways through education. Economic changes have created a demand both for higher levels of attainment and for new kinds of skills. At the same time, growing inequalities and the increased risk of social and economic exclusion have generated new problems in respect of low-achieving students who may be marginalised by the expansion of education itself.

These trends and pressures are mediated by the specific history and institutions of each country, and the specific problems to which they give rise may vary across countries; but they reflect global trends and are broadly similar across Europe. Countries have responded by introducing reform programmes with a number of number of common or overlapping objectives. These include:

- to raise levels of attainment;
- to enhance opportunities for lower-attaining and less advantaged students;
- to increase the attractiveness of these opportunities, and to promote parity of esteem;
- to improve progression opportunities;
- to modernise the curriculum and to promote general skills and knowledge, including key or core skills;
- to promote equality;
- to decentralise the system and to increase its flexibility and responsiveness; and
- to rationalise the system and to make it more transparent.

The Post-16 Strategies project has focused on reform programmes with the specific objective of achieving parity of esteem between academic and vocational education, but all the reforms we have studied pursue most, if

not all, of the objectives listed above. This makes it all the more remarkable that they appear to be pursuing these objectives through very different strategies.

In the concluding chapter of the interim report we identified four strategies:

- *Vocational Enhancement:* to enhance vocational education, and make it more attractive to potential students, through measures which maintain and strengthen its distinctive ethos and its separateness from general education;
- *Mutual Enrichment:* to enhance both vocational and general education through measures which allow each to draw on the best features of the other, a strategy that brings the two types of education closer to each other but maintains a distinct identity for each;
- *Linkages:* to give vocational and general education the same formal status, and to link them through such measures as a common certification framework, arrangements for recognition and transfer and common curricular elements; and
- *Unification:* to abolish the distinction between vocational and general education by combining them within a unified system and developing a curriculum which integrates the two.

We suggested that these four strategies were exemplified by the reforms in Austria and Germany (vocational enhancement), in Finland and Norway (mutual enrichment), in England and France (linkages) and in Scotland and Sweden (unified system) respectively. We recognised that each country's reform programme might include elements of different strategies, and that the emphasis of a country's policy could change over time. For example, we classified England as representing the linkages strategy because aspects of the recent Dearing Report exemplified this strategy, although previous English reforms, and some elements of the Dearing Report itself, more closely reflected a strategy of vocational enhancement. We suggested that the four strategies might best be seen as representing a continuum between strategies based on the distinctiveness of academic and vocational education and those based on their full integration, with linkages and mutual enrichment as intermediate strategies between the two poles.

The main chapters in this report present studies of each of the four strategies, based on the two countries where this had been judged to be the dominant strategy. In the rest of this chapter we review these studies and address the following questions:

- Do the eight countries' strategies differ as much as our earlier analysis suggested, and does our initial typology of four strategies adequately express the variation among them?
- How can we account for the diversity of strategies and for each country's choice of strategy?
- Is there evidence for the relative success or effectiveness of the different strategies?
- What is the possible future direction of Europe-wide developments in post-16 education: is convergence likely?

The Two-Country Reports

The advantage of pairing the eight countries represented in the project into one of the four strategies is apparent in different ways in each of four two-country reports. A number of themes are common to all the reports. First, we have an assessment of the strengths and weaknesses of each strategy and a discussion of how in a number of cases the effectiveness of the given strategy depends on the extent to which it is part of a broader overall plan including elements from the other strategies.

Secondly the focus on individual strategies brings out the importance of the variety of forms that each strategy can take. These variations are sometimes conceptualised in terms of dimensions (e.g., what aspect of a system is being linked or unified or enhanced), sometimes by distinguishing between strong and weak variants (i.e., tracks can be strongly or weakly linked) and, in the case of the unifying strategy, by the recognition that there are distinctively different types of unifying strategy directed to achieving different types of unified system. A third and related theme is the similarity or lack of similarity between countries classified as adopting the same strategy. A final point refers to possible explanations as to why countries adopt particular strategies.

Vocational Enhancement

Vocational enhancement describes very well the strategy adopted by Germany and Austria to promote parity of esteem between vocational education and general education. It is distinct from the three strategies described below as it reforms the system of vocational education independently of any relationship that the system may have to the provision of general education. It is a strategy for strengthening vocational education in its own

terms by developing work-related skills and knowledge and by improving opportunities for students to progress to higher vocational education. As the authors point out, the strategy is a response to the significant drop in numbers of students opting for the vocational route as well as to a drop in opportunities for apprenticeships for lower-level work. The Austrian response to this situation has been to develop higher-level vocational programmes through expanding provision in polytechnics, thus in principle guaranteeing all vocational students the opportunity to continue their studies into higher education. The Austrian approach therefore is to enhance vocational education by expanding opportunities for students to progress to higher education (through the polytechnics) and by extending opportunities for vocational education to embrace new occupations in office work and telecommunications. Germany, on the other hand, has a long tradition of higher vocational education through polytechnics. Its enhancement strategy has been more grass-roots or practitioner-based and has started from perceived weaknesses in the teaching methods used in vocational education, and in relations between vocational schools and enterprises. It has focused on curriculum and pedagogic enhancement, as exemplified by the Brandenburg Model Project at *Oberstufenzentrum* Schwarze Pumpe, and it has attempted to reduce the difference between general education and vocational education approaches to teaching and learning. In the case described, vocational enhancement takes two main forms. The first is learning and work assignments which students complete in groups. They are developed through collaboration between schools and companies and between different specialists in schools. They involve a shift in the role of the teacher towards assignment preparation and are linked to the second change, which is cooperation between learning places - the explicit collaboration between workplace instructors and technical teachers.

Mutual Enrichment

The mutual enrichment of academic and vocational learning is, like the linkages strategy, an intermediate approach that seeks to bridge the academic/vocational divide while maintaining separate tracks. The strategy brings the tracks closer together in order that each may draw on the best features of the other. Norway and Finland were taken as our exemplars of countries adopting mutual enrichment strategies, though as the report makes clear, mutual enrichment is a far more accurate description of Finnish reforms than of those introduced in Norway. The reforms in each

country shared similar purposes - to create greater equality for all students, to encourage the learning of new skills relevant to future economic needs, and to provide a counter to academic drift. However, the strategies adopted were very different. In Norway, the 1994 national reforms created common upper secondary schools and are better seen as representing a unified system strategy. On the other hand, the Finnish upper secondary school experiment, while it encouraged students to choose courses in either a vocational or an academic school, was equally committed to maintaining the two types of school. Insofar as enrichment could be said to be a feature of the Norwegian reforms, it was expressed on the level of curriculum rather than organisation. The reduction of the number of vocational courses together with the increase of general education provision on all courses can be seen both as enrichment and as playing a role in promoting parity of esteem between general and vocational routes within the same school. The Finnish/Norwegian comparison highlights the importance of specifying the level of analysis being attempted or the dimension of the system to which a reform is addressed. A strategy can pursue a unified system on one level and mutual enrichment on another.

Linkages Strategies

The English/French report begins by arguing that the concept of linkage combines an emphasis on maintaining the distinctiveness of tracks (or qualifications) and an endeavour to develop links between them. It may therefore be more a strategy to maintain the separation of the tracks in the face of pressures to bring them together than an attempt to integrate them. As a strategy for promoting parity of esteem it appears to make sense in large centralised systems (as in the case of France) and in mixed systems (as found in England). The report argues that if a greater emphasis is given to common features of the different tracks, as in the case of the various baccalaureates in France, then a linkages system is likely to become more unified. On the other hand, where the stress is on maintaining the distinctiveness of the tracks, as in the English case, a linked system is likely to revert to a tracked system and the links will remain weak. The report distinguishes between strong (France) and weak (England) linkages strategies; these are illustrated by the extent to which different qualifications in the two systems (GNVQs and the *Baccalaureat professionnel* are taken as a case study) share a common curriculum. The report also shows how a linkages strategy can have different purposes in two countries. Whereas the main focus of linking GNVQs in England has involved A levels and the

relative chances that students taking the two qualifications have of being admitted to university, in France the emphasis of the *Baccalaureat professionnel* is on improved employment prospects; there is no attempt to claim equality with other baccalaureates. However, an alternative interpretation is that because the English strategy emphasises track distinctiveness, it is more appropriately classified as vocational enhancement (whether the enhancement is successful or not is a separate matter). A formal commitment to parity of esteem, with few substantive changes to support it, is not evidence of a linkages strategy.

Unified System Strategies

The Swedish/Scottish report begins by accepting that a unified system does describe the approach to achieving parity of esteem between academic and vocational education adopted in each country and that it is likely to be significant that both Scotland and Sweden are small countries which, even before the reforms, had relatively weakly stratified systems in which there were not sharp distinctions between the academic and the vocational.

However, the report raises two important conceptual issues which are likely to have wider implications. First it comments that unifying strategies are not monolithic but multi-dimensional, and particular strategies can be unified on some dimensions (e.g., the Swedish decision to go for common upper secondary schools in which all programmes of study are of the same length) and not on others. Secondly, the comparison between Scotland and Sweden as countries both embracing unifying strategies makes explicit that there can be different types of unified system. The Swedish/Scottish comparison demonstrates one way in which unifying strategies can vary, between an emphasis on uniformity of treatment and outcomes for all students, as in the Swedish case, and an emphasis on providing choice among a flexible range of opportunities, as in Scotland's Higher Still programme.

Conceptualising the Variation in the Strategies

The first of the questions posed above was whether the eight countries' strategies differed as much as our earlier analysis suggested, and whether our initial typology of four strategies adequately expressed the variation among them. The first part of this question has a clear answer: our study has revealed very substantial differences among the strategies pursued in

different countries, even when these strategies aim to achieve similar objectives.

The second part of the question is more difficult. At first sight, the two-country reports appear to show that differences between countries pursuing the same strategy are as important as the similarities. Within the vocational enhancement strategy, we find a relative emphasis on progression routes in Austria and on pedagogical reform and school-enterprise collaboration in Germany. France and England appear to be strong and weak variants of a linkages strategy, with France stressing common curriculum elements and England stressing overarching certification. In the mutual enrichment strategy, Finland is retaining separate vocational and general schools while Norway has introduced a combined upper secondary school. And as noted above, Scotland and Sweden represent different models of a unified system.

To some extent these differences are exaggerated by the methodology of the study, which tends to overstate intra-strategy differences and to understate inter-strategy differences. We have presented our evidence by discussing pairs of countries pursuing the same strategy, and each chapter tends to concentrate on differences between the two countries (intra-strategy differences), rather than on differences between these countries and countries adopting other strategies (inter-strategy differences). The observed intra-strategy differences may also be exaggerated because of the way in which we initially allocated countries to strategies. We classified Norway as exemplifying the mutual enrichment strategy, but the Finnish/Norwegian report makes it clear that in many respects it represents a unified system strategy. We classified England as applying a linkages strategy but the main reform described in the English/French report (GNVQ) appears to illustrate a vocational enhancement strategy. This may have reflected a failure to distinguish between the focus of a strategy (enhancing vocational education) and the status and quality of what is being enhanced (in other words, high- or low-quality vocational education could be enhanced); this is a point we develop later. Nevertheless, even allowing for these oversimplifications, we still find variations within each strategy, as well as substantial overlap between different strategies.

Perhaps the weakest feature of the classification is the distinction between the two intermediate strategies - linkages and mutual enrichment. On the one hand, each of these strategies is internally diverse, as noted above. On the other hand, several features (such as student choice, common

curriculum elements and overarching certification) cut across the two strategies.

All this suggests two ways ahead for further research and policy. Instead of starting with four strategies, it may be useful to begin with three assumptions:

- There is a continuum from track-based to unified system strategies.
- We must recognize that each pole of the continuum is open to different definitions or emphases. For example, track-based strategies may divide between those whose main aim is to defend the academic or general track (England) and those whose main aim is to enhance the vocational track (Austria and Germany). Models of unified systems may vary between those which emphasise common treatment and outcomes (Sweden) and those which emphasise flexibility (Scotland).
- Strategies can vary in their focus - on certification, institutions, curriculum, etc; in other words the strategic continuum can be represented along a number of dimensions. A conceptual framework for distinguishing dimensions, which we have developed from our Anglo-Scottish comparisons in conjunction with this project, is illustrated in the chapter on the unified system strategy and makes explicit the idea of dimensionality.

If our typology of strategies is refined in this way, we can preserve the considerable analytical value of the conceptual framework while recognising that no country is a pure or typical example of any one strategy. Even in a country where a particular strategy is dominant, it is the strategic mix involved in any national reform that is ultimately important.

Explaining the Choice of Strategy

The second of the questions posed at the beginning of this chapter asked how we could account for the diversity of strategies and for each country's choice of strategy. Raffe et al. in one of the following chapters distinguish three types of reasons for the choice of strategy - political, educational and pragmatic - though obviously these overlap and what is seen as educational in one context may be political or pragmatic in another. With respect to political reasons, the political complexion of the government which introduces the reform appears to matter less than the political and educational culture of the country; for example, in both Scotland and Sweden conservative national governments proposed unified systems partly in deference to a political culture which valued equality and the principle of compre-

hensive education. Of course we recognise that "conservative" does not have the same meaning in the UK (whether Scotland or England) as in Sweden. Educational reasons refer to the need to develop a system which will generate new types of skill and knowledge that are precluded by the present system; the best example from this project is the German Schwarze Pumpe.

Differences in political and educational reasons are likely to be reflected in a strategy's objectives or in the emphasis among them. Pragmatic factors and explanations for choosing a strategy involve the fact that both the relative effectiveness of different strategies and decisions to adopt one or another may depend on the character of the existing system or of its social and economic context. Our study suggests that such factors are at least as important as political or educational principles in determining each country's choice of strategy and the diversity of strategies across countries. Important factors influencing choice of strategy include the strength of vocational education and training in the given country, its school- or work-based nature, the size and the degree of centralisation of the educational system, and the extent to which the social and economic context favours a distinctive vocational track. The best example is the strategy of vocational enhancement, which is most actively developed in countries with strong work-based systems of vocational education. Unified systems strategies, by contrast, are associated with weaker and/or school-based vocational education, but also depend on the existence of an egalitarian political tradition.

The Effectiveness of Strategies

Our third question was whether there was evidence for the relative success or effectiveness of the different strategies. Only France has sufficient experience of the reforms discussed here for us to assess their long-term effects on a national level. In Finland and Germany there is empirical evidence, but only from local experiments. In Norway and Sweden the first students to be affected by the reforms are only now (1997) completing their upper secondary education, and in the other three countries the reforms are either still very recent or have yet to be implemented. Thus any conclusions about the effects of the different strategies must be tentative.

We can nevertheless speculate on the criteria by which success is measured. Strictly interpreted, parity of esteem between vocational and general education would result in students of equal status entering each kind of programme: in other words we would expect vocational and

general students to have the same profile in terms of social class, prior educational level and so on. None of the chapters in this report provides any indication that this is happening or, indeed, that it is expected to happen as a result of any of the reforms. Seen in these terms, parity of esteem is an implausible objective: as long as vocational programmes in upper secondary education lead to lower-paid and lower-status occupations than general education programmes, we cannot expect them to enjoy parity of esteem.

We suggest that evaluations should focus on more achievable objectives, and find criteria and indicators for:

- determining whether the difference between vocational and general students in terms of social class and educational level has diminished;
- appraising the quality of vocational education, its relevance to working life, the skills acquired and student satisfaction; and
- assessing the attractiveness of vocational programmes: their ability to halt academic drift and to increase the proportionate as well as absolute level of enrolments in vocational programmes.

Future Developments Across Europe

Our final question concerned the possible future direction of Europe-wide developments in post-16 education. It is difficult to identify any strong convergence across the eight countries involved in the project. As we have suggested above, priorities are more a reflection of where each country is coming from - its existing system and context - than of the goals of the strategies themselves. Each country is facing similar problems and pressures and is pursuing (broadly) similar objectives.

Despite these reservations there are signs that most systems are moving in the direction of a more unified system, even if they are starting from different points and moving at different speeds, for different distances and along different dimensions of change. This is not convergence in a strict sense - systems may move in the same direction but the distance between them may increase. However, there is a trend in most systems towards greater formal parity (if not integration) of general and vocational learning, and towards unifying curriculum developments which support an increased emphasis on general learning in all programmes. A challenge for future comparisons is to analyse these developments and the different

forms that they may take. They may extend a common humanistic curriculum to vocational students, they may generalise the concept of vocational education beyond reference to any specific vocation, or they may identify a new integrated concept of general education that combines both humanistic and vocational values and goals.

Enhancing Vocational Programmes in Austria and Germany

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Introduction

As has been explained in another chapter, the original separation of reform strategies for enhancing parity of esteem into four different types has proven to be too simplistic. This is also true, though to a lesser extent, of the definition of a strategy for furthering parity of esteem between vocational and general education by means of vocational enhancement. The description as such is at least partly correct if compared to the definitions of the other three strategies, at any rate when analysed from a systemic point of view. Although both Germany and, much more obviously, Austria, have programmes linking general and vocational education, the point of departure of such programmes is the vocational track which is to be enriched by including into it elements of academic education. There is no *mutual* enrichment, the linkages are designed to work almost entirely in one direction, and there are virtually no moves to develop a unified system. It should be noted, however, that a major aim of reforms in Austria and Germany is promoting access to tertiary education by strengthening the academic component within vocational education and training (VET). In

this sense linkages have in fact been introduced, although in Germany this has been done in a non-systematic way, as will be described later. But whilst it is hoped that this will attract to apprenticeship training more able students who might later go on to higher education, it is nevertheless anticipated, at least in Germany, that a large proportion of such students will remain in the enterprises to form the core of a capable workforce of skilled workers.

In spite of considerable similarities between VET systems in Austria and Germany, there are, of course, also large differences which make it difficult to treat the reforms in the two countries as reflecting a single strategy. In Austria in particular, strategies to improve the whole VET system, including the creation of linkages with the general education system, have recently gained considerable importance. This trend has been reinforced by the combination of reforms of upper secondary education with tertiary education reforms (polytechnics and universities). The following analysis will focus on this systemic aspect.

In Germany, measures similar to those to be introduced in Austria are also to be found. In the current debate, however, these are of minor importance and will therefore play a minor role in the discussion that follows. Instead, a specific but rather small model project will be analysed. This provides a case study of new possibilities, to be described below, for promoting parity of esteem, mainly by enhancing vocational education and training.

Although there are some similarities in the basic philosophies underlying the systemic reform in Austria and the Brandenburg Model Project in Germany, it would be misleading to summarize them as simply different aspects of the same strategy. Within Germany itself the Model Project represents an exception to the general trends, and it remains to be seen how far it will be able to influence these trends. This disparity between an unrepresentative model project, chosen here for the German case study, and the systemic reform strategy in Austria will also come up in the following analyses.

The Contexts of the Strategy: The Educational System and the Labour Market

Austria and Germany have extensive systems of vocational education and training. There are essentially two methods of delivering VET in these countries. One involves a dual system of training in enterprises and at vocational schools (in Germany by far the most important method), while the other comprises school-based vocational training at intermediate-secondary institutions. Neither programme qualifies a student for entrance to tertiary education or university. In Germany graduates of upper secondary technical schools (*Fachoberschulen*) can go on to polytechnics (*Fachhochschulen*), a system which has also recently been introduced in Austria. However, in Austria there is also a type of school-based vocational training where graduates are granted entrance to tertiary education (secondary technical and vocational colleges). From autumn 1997 those completing their dual-system training will also be able to enter tertiary education; this possibility is also open to students in special cases in some German states. Thus both countries have extensions of the dual training system which open up new chances of progression and provide some opportunities for gaining admission to higher education.

Enrolment trends over the last few decades all point in one direction: both the dual training system and the intermediate-level school-based pathway have seen a significant drop in the numbers of medium and high achievers choosing lower-level vocational training at the same time as there has been a great increase in student enrolment in Austrian higher-level vocational and academic secondary schools. In Austria schools which provide access to tertiary education or universities have gained sharply in popularity whilst in Germany this trend is currently weakening. The loss in popularity of apprenticeship training amongst young people who have at least medium-level marks from the lower secondary school is parallelled by a drop in the number of vocational training positions available on the Austrian labour market. Between 1973 and 1993 the number of companies offering vocational training positions fell by a third. On the other hand, in Germany the number of apprenticeships in proportion to the size of the age cohort has risen, largely due to the inclusion of low achievers, most of whom are able to find employment in craft occupations. Very recently, however, the number of apprenticeships offered to young people dropped sharply in Germany as well. In many branches of industry the demand

among young people for such positions is far higher than what is on offer. It should particularly be noted that the reduction in opportunities to train for traditional occupations has not been compensated by comparable increases in the more innovative sectors, at least not in Austria.

The success of higher vocational schools in Austria can largely be attributed to two factors: graduates acquire both specific occupational qualifications and access to tertiary education or university. Such secondary school are among the most popular types of educational establishment in the Austrian school system. This indicates that at the beginning of the 1990s more and more upper secondary school students were choosing secondary education with an occupation in mind rather than opting for academic secondary education, though both confer the same graduate status and access to university. In Germany there is, apart from the technical upper secondary schools, virtually no alternative to academic secondary education as a pathway to tertiary education.

In Austria there is a strong trend in upper secondary education away from all forms of schooling which do not qualify the student for access to university, while student numbers continue to rise in those institutions which do offer access to tertiary education. Accordingly, some ten years ago there were efforts to counter the "blind alley syndrome" in the dual system. A special Matriculation Examination (*Studienberechtigungsprüfung*) was established in order to offer the large group of dual system graduates and those who had interrupted their education the possibility of university studies (Bacher, Blumberger, Grausgruber, & Weilguni, 1994). A decade later the results of this initiative can already be assessed, and the success of the measure has been limited: only around 3 per cent of first-year university students are admitted to tertiary education in Austria on the basis of such a qualification. Similar measures undertaken in some German states show comparable results.

Post-secondary education in Austria has been marked by a narrow range of options. Universities were the only tertiary education institutions. In recent decades numerous educational opportunities were created to expand this single-track system. Particularly worth noticing is the introduction of very successful, though expensive, college courses which however do not confer a university-standard degree, as is also true of the degrees granted by academies of social work and pedagogics. Similar developments have taken place in Germany through the establishment of vocational academies (*Berufsakademien*).

Increased interest in education has stimulated, in both countries, great changes in universities. Excessive student enrolments on many courses, increasing bureaucracy, high drop-out rates and prolonged studies have characterised many universities particularly during the baby-boom years. However, Austria's relatively low proportion, by international comparison, of university graduates in the general population has not been much improved in spite of the influx of students into the universities. As mentioned above, there has been no tertiary education outside university leading to university-level degrees. This is one reason for the low proportion of tertiary education graduates. Another reason may be the still relatively low status of post-secondary education. In Germany, because of the successful introduction of the polytechnics, about a third of the age cohort participates in tertiary education, a level comparable to those in most European countries. University drop-out rates remain a severe problem.

The problem in Austria is not a general weakness of the vocational training system, but the diminished attractiveness of particular areas of vocational training, especially in the dual system, and the lack of possibilities for scientific vocational training on the college level.

Similar strategies are being applied in Austria and Germany as far as efforts to open up tertiary education to semiprofessional training are concerned. Germany has been able to tackle the problem in a somewhat different way than Austria because of the large number of polytechnics (*Fachhochschulen*). In Austria this system is still under development so that practically every vocational training graduate entitled to tertiary education swells the numbers of university students since universities represent their only opportunity to gain tertiary education.

The strategy of improving the attractiveness of vocational education by enhancing vocational education and training has a further dimension. In Austria there have been improvements within the academic and vocational education system but outside the dual system intended to increase the attractiveness of vocational training. The aim is among other things closer links between the general education system and the demands of the labour market. Vocational teaching contents (key qualifications) are being incorporated into the secondary academic school system. More broad-ranging approaches to integrating vocational and general education would be faced with greater problems and it is not surprising that there are no practical policies expressing such objectives. This is connected on the one hand with the continuing role of educational concepts specific to the German-speaking region, on the other hand with institutional structures and with the links

between these two factors. The vocational and general education system is facing a crisis which is not only structural in nature but also social.

Economic developments have led to a significant reduction in the number of jobs in industry. It is not surprising, therefore, that the sector of the educational system that prepares skilled workers for industry is suffering from a well-founded anxiety over the future prospects of a young person who chooses traditional vocational training. This problem has long been a factor reinforcing the occupational hierarchy, since - at least in Austria - skilled workers' comparatively low income potential has persuaded able young people to strive for higher qualifications and thus to gain a secondary-school qualification which will entitle them to tertiary studies. These purely economic considerations, which lessen the attractiveness of training to be a skilled worker, are even further reinforced by the increasing difficulties faced by young workers in finding a secure job. Between 30 and 80 per cent of those who have finished their apprenticeship training are not engaged by their training company (Blumberger, 1997) and have to deal with more and more difficult conditions on the labour market.[1] Those in the dual vocational training system in the industrial sector are faced, then, with doubts about job security and with bleak career prospects. Consequently more and more young people are avoiding the dual system. Recently there has been a counter-trend in Germany, where university graduates are also confronted with increasing job insecurity. Viewed from the outside, the extent of the problem is not yet apparent in statistical terms. However, the current generation of young people are baby boomers, and the demand for vocational positions is on the increase just at a time when these positions are being reduced by companies for economic reasons. Many young people in Germany, at least since 1996, are failing to find a training place after finishing compulsory school.[2]

Moreover, if we simultaneously take notice of the rising number of young people aspiring to university entrance, it becomes obvious that the

[1] Clear evidence can be seen in labour market statistics: 38,7 per cent of unemployed Austrians have successfully passed an apprenticeship training (May 1997); the figures for Germany are only slightly lower.

[2] Despite additional measures undertaken in Austria it is expected that by the end of September 1997 there will still be between 4,700 and 6,700 young people without employment or access to other training facilities (Hofstätter, 1997). The figures for Germany are, in relation to the size of the population, not much lower.

qualitative impoverishment of the dual system represents a major challenge. If able young people continue to turn away from the dual system, it will no longer be possible to meet the demand for highly skilled workers. Here is the latent crisis of the dual system.

On the other hand, there have been numerous attempts to improve the dual system. Germany undertook a laborious but in the long run rather successful project to modernise the image of occupational profiles (there are around 370) resulting, especially in technical fields, in the creation of interesting new positions. This represents a strategic difference from Austria. There is also considerable investment in equipping both schools and workplaces, stemming from an urge to modernise. However, the passing of the new vocational education act in Austria in 1997 has led only to surface improvements. This is the reason why the reforms were stopped in the end. The Federal Government and the social partners agreed on measures for a reform of apprenticeship training; however, in 1997 they are still awaiting implementation. Despite all criticism there remains - in Austria as well as in Germany - a firm political consensus on retaining the dual system and it is only occasionally that one hears voices calling for a fundamental change, arguing mainly that it is necessary to cut enterprises' costs.

Besides these structural problems the strategy of improving the dual system is confronted with serious additional problems. A main stumbling block in the dual system is the lack of real integration between company-based training and school-based education despite the fact that it is mostly viewed, at least from the outside, as a truly cooperative system. The chances of improvements in this area depend on removing old structures which separate theory and practice.

A specific difficulty is the special way in which the dual system is controlled in Germany. Cooperation between the two sites of education and training, school and enterprise, is regulated by separate laws which are the responsibility of the Federal Government on the one hand and of the state governments on the other. Thus the dual system appears compact and well structured from the outside, but the concrete implementation of the dual principle is hampered by the absence of collaborative forms of organisation. Enterprises on the one hand and schools on the other fulfil their obligations but are not actually required to cooperate with one another. Students report that coordination between the two areas of learning is often exceptionally poor.

Also, personnel appropriately trained for cooperation between schools and companies are not available. Teachers and trainers usually do not see

the need to collaborate as essential to their professional image. Both focus on their own domains, teachers on scientific theory, trainers on company-oriented practical work. Very often one group thinks that they have little in common with the other group. They consider that they fulfil their teaching function through a division of work between the practice and theory of an occupation. Seeing their competences as strictly separate, they largely exclude the idea of sharing the responsibility for qualifying trainees for their occupations.

Purposes and Aims of the Reforms and the Nature of the Problems Addressed

It was against such a background that the strategy of the German model implemented at Schwarze Pumpe, referred to hereafter as the "GM", was piloted and has since shown significant promise. The Brandenburg Model Project attempts to exploit the potential of modern vocational education and training in order to foster a student's abilities to pursue academic studies. At the same time school-based teaching is complemented by special academic courses which represent the equivalent of the above-mentioned technical upper secondary schools (*Fachoberschulen*). In this way, after a study time of three and a half years, the regular period for a normal apprenticeship, the students receive an occupational certificate as well as the right to be admitted to a polytechnic. Thus a graduate is offered a dual option, and a decision to pursue vocational training does not automatically exclude progression to higher education. Furthermore, there are efforts to improve the actual content of school-taught and in-company courses with a view to achieving close cooperation between the school and the company.

In Austria there are no integrative models of this kind. The Austrian approach has been to try to increase the attractiveness of apprenticeships by the implementation of the *Berufsreifeprüfung* (Vocational Higher Examination). This certificate is supposed to provide graduates from the dual training system with access to post-secondary educational institutions (universities, polytechnics or post-secondary technical colleges). However, the *Berufsreifeprüfung* is not an integrated part of apprenticeship training but is considered an additional qualification involving a special certificate of secondary education. To organize its delivery it is planned that voca-

tional schools will offer courses preparing students for taking the examination. In practice, since apprentices will be highly stressed, the success of this development is far from assured.

In Austria as much as in Germany, the apprenticeship training system suffers from a lack of integration between education and training in vocational schools and in enterprises. Furthermore, the pedagogic expertise of company trainers and vocational school teachers is frequently criticised. Given this, it is all the more remarkable that the Austrian reforms are intended to improve not teachers' and trainers' pedagogic expertise but the structures and external conditions of the apprenticeship system. The previously mentioned reforms instituted by the Austrian Federal Government involve mainly the modernisation of job profiles, the combination of individual apprenticeship trades and the deregulation of in-company training as part of a new labour policy.

Because the educational concept of separating general and vocational education is still influential, in the German-speaking region both dominant and deeply rooted in the educational system, the German model does not attempt to change these structures; it represents only a model for possible future developments. It aims to integrate vocational and general education but does so on a comparatively modest scale - the first steps towards reform involved only 96 students, followed, however, by new student cohorts of about 40 young people every year. The unassuming scope of the project is explained by the fact that the period of major educational reform has passed in Germany. There were two major schemes in the 1970s and 1980s designed to change the structure of schools. Both more or less failed, though this is not the place to examine the reasons why. For a more detailed discussion of the subject see Appendix III. However, it is clear that the failure of these reforms, which were rather large-scale, has had implications for reforms with the aim of creating a comprehensive educational model. The previous reforms involved the introduction of a comprehensive lower secondary school while in the state of North Rhine-Westphalia the *Kollegschule* represented an attempt to create a new type of upper secondary school. The *Kollegschule* was supposed to replace the traditional academic and vocationally-oriented secondary schools, including those catering for the dual system.

On the lower secondary level there is still a tripartite track system comprising the *Hauptschule* ("main school", lower requirements), the *Realschule* (technical school, intermediate requirements) and the *Gymnasium* (academic secondary school, higher requirements). Only *Gymnasium* stu-

dents were expected to go on to university rather than taking up an occupation. This school structure reflected the division between general and vocational education. Eligibility for university education could only be achieved at academic upper secondary schools while preparation for an occupation and the general education necessary to pursue it was offered, apart from the prevailing dual system, in non-academic secondary schools. Students attending these vocational schools were thus unable to gain access to universities. The idea behind the major reform was to abolish the distinction between these types of school (the integration of schools for students in grades 7 to 10, and for students in grades 11 to 13), and create a unified upper secondary school comparable to the envisaged lower secondary school, which was to have included preparation for both vocational and academic studies. However, representatives of academic secondary schools, drawing on specific political support, opposed the reform in the first place, and the plan failed.

Although the reform of the school system as such proved unable to bring about major change - at least as envisaged - the entire process was not without results. Much has in fact changed, including academic secondary schools. The reforms reflected a process of change in society in general which did not stop at the school gate. What failed was not the effort to modernise the educational system but systemic modernisation. Those schools which did take part in the reform process have shown themselves willing to change. Their individual examples have been copied by many other schools who have since incorporated the improvements.

Consequently, the new reform strategy in Germany has been to achieve the aims of the earlier attempts to integrate academic and vocational education on a much more limited scale. There were and are model experiments being carried out involving company staff, schools and administrators interested in the reform and willing to cooperate with one another; what has been dropped is the attempt to create new system-spanning schemes or the imposition of any measures by decree. While the earlier reform failed to fulfil its promise (even if it did succeed in some individual schools), we are assuming that under the new circumstances a strategy of starting with small but successful reforms can have a greater effect than grand plans which have to be pushed through by decree. This is the difference between working from the top down and from the bottom up. Experience shows that under the existing circumstances the latter approach may lead to longer-lasting changes in the desired direction.

Eliminating the separation between different forms of schooling within secondary education in order to create a uniform type of school was one of the major reform projects in Austria; but again the attempt failed. As a consequence young people who are eager to learn have already made up their mind to attend a secondary academic school when they start their lower secondary education. In their 9th school year they then either opt for the technical and vocational school or remain in the academic upper secondary school. A major proportion of young people in lower secondary schools start vocational education after a preparatory year. Some gain entry to the technical and vocational school, whereas a further group breaks off from schooling as such and opts for an apprenticeship. From the point of view of the training companies, choosing one's type of school in this way has led to undesirable results in that apprenticeship training has become the choice of increasing numbers of less motivated young people. On the other hand, the trade unions as well as the chambers of labour criticise what is known as the blind alley of an apprenticeship that does not lead to higher education qualifications. The growing number of less motivated students entering the apprenticeship training system is one of the reasons behind attempts to improve in-company vocational training in Austria. Another reason are the new requirements facing apprenticeship trades that arise from wider socio-technical changes. The reforms are limited because the law regulating business and industrial activities has enormous influence on occupational qualifications and on students' opportunities to study for a vocational qualification independently from a company. Furthermore, formal certificates of vocational education include a claim for legal rights to social as well as financial benefits.

The Reforms Themselves: A Systemic Reform in Austria and the Model Experiment in Germany

The recent Austrian reforms have proved themselves to be quite fundamental in some respect; yet, up to now, they have hardly been noticed by the public. The flexibility and attractiveness of VET within the dual system has been improved relative to the technical and vocational schools (Vocational Higher Examination, 1997) while the establishment of specialised colleges of higher education (polytechnics) in 1994 meant the creation of a completely new kind of tertiary education in Austria. In

addition, the costs of in-company training have been cut and the restrictions with regard to labour market policy have been removed. In this way, it is hoped, companies will have more incentives to develop their own vocational training facilities. Structural reforms, including the re-grouping of apprenticeship trades (*Gruppenlehrberufe*) and the modernisation of job profiles, giving individual schools more autonomy and promoting innovation in teaching methods, are all designed to make the system more responsive to the demands of the labour market. There are also some plans for the provision of new additional and publicly funded vocational training facilities. Figure 4 presents an overview of the Austrian reform.

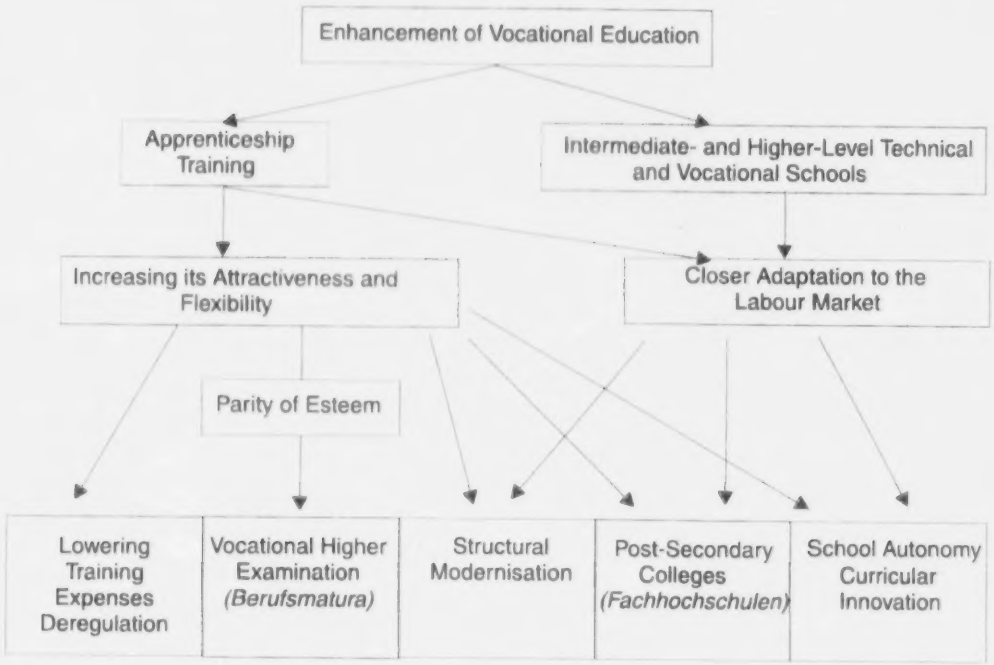
Enhancement of Vocational Education
Apprenticeship Training
Intermediate- and Higher-Level Technical and Vocational Schools
Increasing its Attractiveness and Flexibility
Closer Adaptation to the Labour Market
Parity of Esteem
Lowering Training Expenses Deregulation
Vocational Higher Examination (Berufsmatura)
Structural Modernisation
Post-Secondary Colleges (Fachhochschulen)
School Autonomy Curricular Innovation

Figure 4. *Enhancement of Vocational Education in Austria*

The new Austrian polytechnics focus on the practical side of education which has traditionally been a very important part of the dual system. When compared to university-based higher education, this is a substantial innovation. The practical side of education is stressed by making sure that enterprise-based training is part of the curriculum and that the interests of

companies are taken into account. Also, teachers are required to have industrial experience.

It is expected that the diversification of tertiary education and the wider range of alternative courses brought about by the polytechnics will enlarge the proportion of people enroled in post-secondary education. Another important aim of the polytechnics is to increase the attractiveness of secondary-level vocational training through linking it to vocational higher education (also called *Berufsmatura*). The *Berufsmatura* enables apprentices to progress to university and is expected to encourage high achievers to stay in companies. It remains doubtful, however, whether all of these aims will in fact be realised.

The German model also aims to improve the appeal of the dual system by broadening the options available within it. The focus of the reform strategy, however, is primarily on improving learning and teaching methods and the collaboration between schools and enterprises; this has led to the development of new curricula. The main innovation is the development of "learning and working" assignments; these are given to the students and carried out in cooperation between enterprise and school. In this way, it is hoped, scientific principles are illustrated whilst, at the same time, workable technical plans are produced. It is also hoped that these new methods will provide models which could act as stimuli to other schools and enterprises to design similar schemes. The whole process is supported by advice from a scientific advisory group which has adopted the approach of accompanying research. In this approach evaluation is used in a formative way for improving the Model Project; it thus fulfils some of the aims of action research. The model deals with the occupations of industrial technician and industrial energy electrician. However, because the principles of the method have been made explicit by the scientific advisory group, the particular circumstances of these should not limit the possibilities of the model being applicable to other contexts. In other words, it is argued that the model could be applied in the case of craft occupations (car mechanics, gas fitters and plumbers) where students from numerous enterprises are sent to the same class within a vocational school and where firms are much smaller than industrial companies. Here specific organisational variations (e.g., weekly block courses) may be necessary. Whilst the GM aims at improving both school-based education and company-related training through new methods of teaching and new curricula, the national qualification standards (vocational certificate and matriculation examination for polytechnics) are also important. The core subjects of the upper

secondary technical schools (e.g., mathematics, German etc) and the substantive content of vocational knowledge (turning, milling, welding etc) are retained. The starting point of the GM model is not the "what" but the "how" of learning and teaching. The primary goal is the training of skilled workers for a modern factory characterised by flat hierarchies and by teams working independently and planning, executing, controlling and evaluating their work. In order to develop such skills the theoretical knowledge required for the polytechnics matriculation (*Fachhochschulreife*, FHR) needs to be linked to study skills which are based on fulfilling authentic work tasks. A scientific advisory group was created with responsibility for the development of an adaptable prototype of the reform scheme which is valid in terms of the agreed aims and methods of the project.

To achieve the stated goals, the teaching must be, according to the strategy of the GM, as closely oriented to the work process as is possible. Since such a situation cannot easily be achieved in a vocational school or a training workshop, as many aspects of the curriculum as possible are combined in the complex learning and working assignments. Students are expected to complete the assignments in groups independently. Cooperation between schools and companies on the design of these assignments is essential, as is cooperation between different subject specialists in the schools. Teaching and learning in the enterprises and in schools have to be closely linked. This cannot be imposed. Teachers and trainers are more inclined to view their tasks as being separate because of their own education; they are not used to developing their own curricula.

The essential element of the GM is to entrust all those involved with the task of organising a new approach to training and education along the lines of the learning and working assignments. For teachers and trainers, the emphasis shifts from the actual teaching in the class - which increasingly should be organised with the involvement of students - to the careful planning and preparation of courses. This implies new roles for teachers and instructors and has led, in the initial phase of the project, to a new type of continuing education for teachers and trainers. Teachers and instructors are increasingly expected to decide for themselves about their in-service training needs in light of the assignments they want to introduce in the project; it follows that they themselves become the main experts in the GM. In the long run, such an approach should improve the quality of education and training and effectively strengthen the dual system.

A further structural element besides the learning and working assignments is what is called learning site cooperation. The significance of coope-

ration between teachers and instructors for the GM has already been described. However, it can itself serve as a model for the regular dual system since one of the main problems of the latter is that the different learning sites (i.e., school and enterprise) do not properly cooperate.

The GM offers, therefore, a reform strategy which the regular dual system should be able to make use of. Learning site cooperation can, as has been said, be considered independently from the aim of creating better opportunities for access to higher education, a common characteristic of the Austrian and German reform strategy. In reality, however, both aims should be viewed in conjunction with one another since learning site cooperation which enhances learning in both learning sites should also, by itself, improve study skills. It remains to be seen, however, whether graduates of the GM will succeed in polytechnics (in their present form) although there is research evidence to support this assumption (Bremer, Heidegger, Schenk, Tenfelde, & Uhe, 1993). The German polytechnics themselves are subject to academic drift in that they are laying more stress on traditional academic subject matter instead of practical applications. This is an important issue in current debates. For politically - and strategically - allowing access to university to those qualified in the VET system will only be supported in the long term if their success in tertiary education can be assured.

The reform of the Austrian education system is, as outlined before, concerned with upper secondary and tertiary education at the same time. Although each of the two levels should independently contribute to establishing the above-mentioned goals, their cooperation with one another carries special significance.

It is worth examining the reform of upper secondary education in Austria a little more closely. It has to be remembered that students who graduate from the dual system or from vocational intermediate-secondary schools have only a few special opportunities for further education; their path to tertiary education is more or less closed. While for many years such students could gain access to tertiary education only through numerous supplementary qualifications and courses of further education, the new reform means establishing a single additional programme which would qualify the graduate for university studies.

Since VET within the dual system emphasises practical instruction and this involves attendance at school while employed by a company, vocational students were taught less theory in comparison to their fellow students in general or vocational upper secondary schools. Education in

what are known as general subjects such as German, English, mathematics and physics was especially meagre. Quality control has to be improved if vocational courses are going to qualify students for university entrance. An attempt is being made to set students completing the dual system a standard comparable to that expected of those graduating from academic secondary schools. The Austrian vocational school will, in the future, be given the task of preparing students for university entry without the usual regular certificate of secondary education; this means an upgrading of these schools. Such preparation for university entry will then also be offered by institutions of adult education. The examinations will take place at a secondary technical and vocational college and will focus on four subjects: German, a foreign language, mathematics, and project work in the field of the student's technical specialisation.

From the point of view of the GM this focus on entry to higher education represents the greatest difference between the two strategies which share the common goal of increasing the attractiveness of the dual system by improving its quality and widening the options available within it. The essence of the GM is to reduce the differences between general and vocational instruction through changes in teaching and curricula; it does not rely only on improving the quality of traditional academic education within the VET system.

Apart from the upgrading of vocational schools that has been previously mentioned, Austria is also, as outlined above, carrying out some additional measures to strengthen the dual system. It is to be made more attractive to the enterprises by reducing training costs. So far there has been a reduction of insurance costs for apprentices as well as improved financial support for companies training apprentices. However, the employers have made some additional demands. Firstly, they think that the costs of school-based training should be paid by the Labour Market Service, not by the enterprises. Secondly they argue that apprentices' salaries are about 20 per cent too high. They also suggest that cost-cutting could be achieved by the deregulation of labour policy through the reduction of restrictions on employment for apprentices and the implementation of training for unskilled to semi-skilled workers (*Anlehre*). However, this would mean that young people would only learn the specific skills defined by a job profile which could lead to new inequalities and lower wages. It is for this reason that the trade unions and the Chamber of Labour have rejected these plans, arguing that they would result in a "two-class system" with reduced labour market opportunities for a substantial section of young people.

The intended changes create a further problem: if apprentices became cheaper manpower they would increase competition on the labour market. Furthermore, more apprentices would be trained than there are qualified jobs available to them in specific sectors. This would lead to additional socio-political problems (Blumberger & Dornmayr, 1997, p. 66; regarding the costs of apprenticeship training cf. also Lassnig & Steiner, 1996; Schneeberger, 1997). In spite of these general trends - and that is an actual dilemma - youth unemployment could possibly be reduced by cutting the costs of apprenticeships. The structure of apprenticeship trades is being changed by the combining of different job profiles into what are termed groups of apprenticeship trades (*Gruppenlehrberufe*). At present four groups are being established: Information technician (*Kommunikationstechniker*), concrete production technician (*Betonfertiger*), glass technician (*Hohlglasveredler*), sanitary, heating and air conditioning technician *(Sanitär-, Heizungs- und Klimatechniker*). The advantage of having groups of apprenticeship trades lies in their greater flexibility and wider range of vocational qualifications. In addition, it is planned to create new apprenticeship trades for information and communication technologies and for land surveyors and in the area of health care, printing and the media (cf. Freundlinger, 1997). (It may be noted here that similar plans are also being discussed, and have partly already been realised, in the German dual system.)

In 1993 a draft law introduced the long-discussed greater autonomy for schools. This leads to increased independence and flexibility for individual schools over pedagogical, personnel, administrative and financial matters; however, it also requires the schools to take on more responsibility and be more economically aware. Curricula have to be adapted to the needs of regional labour markets as well as ensuring adequate opportunities for specialisation. Schools are free to take advantage of these changes; however, so far vocational schools have not been very successful in taking up these new opportunities

As far as the reform of the system of tertiary education is concerned, the most important development is the introduction of polytechnics. Polytechnics in Austria are essentially comparable to those which had been successfully established in Germany more than two decades ago. The primary goal of these specialised colleges is to impart university-level technical knowledge in order to prepare students for occupations on the higher levels of the professional hierarchy. In Austria, special attention is paid to the practical orientation of polytechnic education; this is achieved on the one hand through compulsory practical vocational courses, and on the other

hand by involving practical instructors in course teaching, something which is not normally the case in Germany. Students normally continue in the vocational field already studied during their vocational upper secondary education. Austrian polytechnics have been recognised as conferring university-level education within the European Union. Successful completion of a programme of such an institution allows the graduate to register for doctorate studies at university.

Progress, Experiences and Problems

Many Austrian vocational schools have already worked out concrete plans for course structures which lead to a vocational certificate granting admission to university. A number of questions remain open, such as who is financing the courses and in which context they are to take place (vocational schools, adult education). The first preparatory courses for the new Vocational Higher Certificate will be held in this school year (1997-1998). There is, as yet, no evidence of their progress or of how many young people will opt for this opportunity, since the demands are considerably higher than those entailed by attendance at secondary academic school or a secondary technical and vocational college. It seems plausible that the Vocational Higher Certificate will in many cases replace "second-chance education" because for the first time the dual vocational education system is a formally accepted part of a certificate of secondary education which gives access to academic studies. One unintentional effect could be that highly motivated young people give up a skilled worker's career and do not stay in the enterprises. Another effect could be that in the long run the dual VET system will be divided into two classes, one pathway leading to lower and another to higher qualifications.

Assessing whether the reforms will increase the attractiveness of the dual system will not be possible before the end of this decade. The same has to be said about structural modernization and the new job profiles. Experiences can be gained only after the reforms have been put into practice, and the reactions of the labour market will not be visible until in four or five years' time. The social partners agree that the combination of technical and commercial training in EDP occupations corresponds to the needs of the labour market, and it is expected that wide-ranging occupational possibilities will be opened up for the trainees. It is anticipated that

at least 40 young people will begin the training for the new occupations in the telecommunications sector.

The exact time of further reforms of the dual system is unknown at the moment. In summary, it is not expected that the ongoing reforms will solve the basic problems of the dual system. These continue to be:

- a loss of status because of the decrease in jobs due to the changing organisation of work;
- a training too closely linked with specific company needs; and
- no real parity of esteem or practicable access to higher education.

Furthermore, it must be doubted whether highly motivated students will choose to become apprenticeships and take the Vocational Higher Certificate through additional courses rather than entering secondary technical or vocational colleges.

Polytechnics were first set up in Austria in 1994. Around 10 new lines of study are established each year. However, the polytechnics are also involved in other curriculum innovations. Most are inter- or multidisciplinary (the combination of commercial and technical studies is the most common). In addition to the combination of disciplines, key skills (in the sense of social and methodological competencies) are also stressed. Although these innovations correspond with actual job market needs, they have, as yet, hardly been integrated into academic education.

The demand for courses in the polytechnics is very great and in most study programmes applications exceed the number of places available. These institutions are selected particularly by those students who have already shown a leaning to a particular occupation during their secondary education. Graduates of academic upper secondary schools are more likely to opt for university. So far, however, the new target group of graduates of the dual system that are aimed at by the reform of upper secondary VET have shown little interest in the polytechnics. In the first years less than 10 per cent of those starting at *Fachhochschule* have been apprenticeship graduates. This relatively small number is partly a reflection of the organisational structure of *Fachhochschule*, as in the first two years study at the polytechnics was only full-time. However, since autumn 1996 programmes designed for those in work have been offered because it seems unlikely that those who have been working for several years would be able to start a full-time study programme. In Germany, however, graduates of the dual system have not been hindered from going on to the upper secondary technical school (*Fachoberschule*) for one additional year in order to get

access to polytechnics. Indeed, a considerable proportion of the graduates of upper secondary technical schools continue their studies in full-time education at polytechnics. The explanation of this difference between the two countries is not yet clear. The part-time form of studying at polytechnics, introduced in Austria, will mainly be attractive to graduates of apprenticeships because vocational experience is a precondition for entering these programmes.

In terms of numbers, for example in comparison to Germany, the significance of polytechnics in Austria is still not great. In the third year that courses were offered, there were around 4,000 students. The small numbers are mainly the result of the restricted scale of programmes on offer. The interest of students is thought to be far higher.

One of the restrictions faced by the polytechnics is that establishing new study programmes requires the permission of an expert body. Furthermore, restrictions on the number of students allowed on certain programmes have also been set. Tight budgets, introduced soon after establishing the new system, are also having an inhibiting effect on the extension of the specialist college sector in Austria.

An additional problem should be mentioned here. The introduction of polytechnics in Austria has meant problems for the universities. The present discussion about evaluation of educational performance is forcing universities to relate more effectively to labour market demands. By doing so they develop strategies with aims similar to those of the polytechnics; for example, shortening the duration of studies, integrating key skills, stressing interdisciplinarity etc. As a consequence, universities enter into competition with polytechnics instead of finding a new role. Interestingly enough, in Germany one can find a reverse trend: polytechnics are moving closer to universities which show little sign of changing, at least up till now.

The much more small-scale Brandenburg Model Project in Germany, presented here as a case study, is designed as a five-year plan. During this period the model has to prove itself in a special setting with particular people. It has already been mentioned that the desired changes in the style of teaching have largely been carried through. The success of the GM will depend on whether these reforms remain valid after the five years' period in which the Model Project is officially running. Two issues should be kept in mind: the success of the GM itself and the effect of its probable success on the national system and therefore the feasibility of introducing major changes through the example of a small test model. The integration of general education and vocational training has proved viable within the

GM. However, it remains an open question whether its bottom-up strategy will prove successful. Two conclusions can be drawn from the preceding analysis.

First, the students taking part in the GM project up to now have achieved better examination results than students in the regular educational system. Interestingly enough, this applies also to practical examinations. With a dual qualification, the suspicion quickly arises that the theoretical instruction - including a higher proportion of academic education - will be given at the cost of the practical skills required in the enterprises. In the examinations, which have not been altered, students with dual qualifications might conceivably have demonstrated a deficit in comparison to those undertaking a regular apprenticeship. This has not been the case with the GM. Therefore one can cautiously confirm that learning and working assignments which include the company-based learning site make full use of its learning potential. This means, on the one hand, that the school-based component profits from the improved quality of learning and teaching at the company at the same time as it also suggests, on the other hand, that company-based education can, in its turn, achieve better results in this way.

Secondly, the first successes of the GM have spoken for themselves. Those designing the assignments have been very satisfied by the results and are considering how they might draw on these methods in regular teaching and training and for classes not belonging to the Model Project. As regards the school-based sector, there are indications that the dual qualification will become the norm within the region concerned. As regards the participating enterprises, with the support the Chamber of Industry and Trade further companies have been persuaded to follow the scheme.

Thus, the GM has achieved its goals in relation to the 96 participating students; however, it has also had an effect on the standard schools and the general quality of VET in the region. This effect can be expected to increase. At present most German states have started experiments which are at least in some respects comparable to the GM; the state of Brandenburg, where the GM is based, has begun to introduce the dual qualification as a standard. In other words, the GM has been anchored in educational legislation.

Nevertheless, it has to be kept in mind that the GM encompasses only a very small number of students. Even if it can be successfully transferred to other regions and even to other states in Germany, it will, in the near future, affect only a minority of students in the dual system. This is a consequence of the step-by-step approach chosen. It remains to be seen

whether the results of the Model Project can play an important role in changing the dual system in Germany in general and contribute to reducing the disparity of esteem between general and vocational education. Inevitably, more general aspects of educational and social policy will play a decisive role.

Reflections

Important questions which have arisen from the comments put forward by partners from other countries have raised a number of issues.

In view of the fact that the structures of industry, and even the general living conditions, are broadly similar in the participating countries, as are the problems and challenges that the countries face, it seems remarkable that the reform strategies are so different across the various cultures. Thus, in the German-speaking region there is still a wide consensus about relying on the dual system as the basis for VET. This in spite of the fact (or perhaps because of it) that in Austria and Germany there were reform initiatives in the 1970s and 1980s which were designed to implement a unified system but which failed. Although the strategy of vocational enhancement is strongly rooted in the educational culture of the two countries, the fact that other strategies are found in other European countries raises the more general question as to whether vocational enhancement has possibilities for the future.

The strategy of unification represents a strong challenge to reforms still based on separate academic and vocational tracks. After all, the well-established European ideal of social equality points to this direction. On the other hand, the Swedish unified system with its streaming of the students into 2 academic and 14 vocational pathways could suggest that a reform on the level of the overall system may not change the opportunities available to individual students all that much. Similarly, the Scottish Higher Still reform might show that it is difficult to introduce a unified system which would encompass all (or, at least, almost all) members of an age cohort without leaving out a rather large proportion of low achievers associated with the work-based route. The Scottish example may even show that, given the inequalities in working life which are even now increasing, a reform which retains a strong vocational pathway may present better opportunities for low achievers because most of them are included in the dual system. It gives

them some security with regard to employment and a minimum salary even if it may not offer them very promising career prospects.

On the other hand, the Scottish and also, although in a rather different way, the English example highlight the importance of flexibility and mobility imposed by modern societal trends. These requirements may not be adequately met by the strategies pursued in Austria and Germany. Although new occupational profiles are being designed and, at least in Germany, have already been partly introduced, there is considerable debate about the issue. It is sometimes argued that the idea of an even partly fixed occupational profile may counteract the demands for greater flexibility and mobility. Such demands can even, at least to some degree, be viewed as an advantage from the perspective of the individual because they exemplify trends towards the "individualised" planning of the course of one's own life. In this respect the lack of student choice, especially in Germany, represents a severe problem. Within the GM, however, there are attempts to increase "internal flexibility" by giving students the responsibility for carrying out, in teams, their own "learning and teaching assignments". This is done by formulating the tasks so that the students are always required to look for alternative solutions. In this way, they should acquire "shaping skills" - that is, abilities to analyse and solve authentic problems in a flexible manner.

However, a stress on flexibility and mobility creates problems for what one might call "vocational identity", the identity acquired through an extensive education and training for fulfilling the complex tasks of a skilled worker (especially in modern companies with flat hierarchies). From this point of view the strategies of linkages and mutual enrichment have a strong appeal as they retain an important vocational track but provide combinations of vocational and general/academic education. It should be noted, however, that there are reforms under way in Austria, and to a smaller degree also in Germany, which realise the linkages approach. However, this reform strategy is dominated there by the vocational track. What is missing in Austria and Germany is the Finnish approach of enriching the academic track with opportunities for vocational learning. The Austrian polytechnics could possibly be seen as partly doing that, although on the tertiary level. In Germany, the polytechnics follow a rather strongly academic path as does upper secondary academic education. In the latter case, however, it should be noted that the *Gymnasium* aims at a general education. This means, at least, a broader range of subject matter than is available, for example, in the English A-level system.

The Norwegian "2+ " model of studying 2 years in the upper secondary school followed by a 1- or 2-year apprenticeship could offer an important possibility for developing the dual system further. It represents the aim of an unified system whilst retaining different streams and, especially important in contrast to the Swedish case, it links school-based learning with learning in enterprises during an apprenticeship. From the point of view of the GM, however, this model should be adapted for the German case so as to make possible an integration of practical and theoretical knowledge. This would combine the "2+" model with the philosophy of the learning and working assignments, which aims to raise the esteem of practical know-how relative to the status of abstract theoretical thinking.

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The Strategy of Mutual Enrichment and Upper Secondary Education Reforms in Norway and Finland

Norwegian Reform -94 and Finnish Experimental Reform of Upper Secondary Education

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Introduction

The plan of the Leonardo da Vinci project Post-16 Strategies outlined four different ideal types representing alternative ways of organizing the relations of vocational and academic tracks in post-16 education. The purpose of the ideal types was to sum up, from the point of view of the problem of parity of esteem, the ways in which educational reforms may change the relation of vocational and academic tracks. These ideal-type strategies represent the range of possible developments. Given the project's goal of identifying ways of improving upper secondary educational systems in some respects, the analysis of strategies also involved an analysis of the different systems, and how they have developed. Planning improvements presupposes also an analysis of the past and present situation.

Accepting the framework of the four ideal types as a starting point for the national analytic work of the Post-16 Strategies project has thus led to taking a close look at different dimensions of reform projects and at how

they are related to parity of esteem and contribute to improving the system as a whole. We have looked for indicators of the differences between the various reforms and strategies. This has revealed further differences in how each reform has emphasized various features of the chosen strategy and allowed us to sharpen our analysis.

Initially it was suggested that the Norwegian Reform -94 and the Finnish experimental reform of upper secondary education exemplify the strategy of mutual enrichment. However, a closer look at the different dimensions of the two reforms suggested that Reform -94 included elements of the unification and linkages strategies. The introduction of a comprehensive upper secondary school suggests that the Norwegian reform represents a unified approach, while some division between vocational and general programmes and opportunities for transfer between them suggest a linkages strategy (Raffe, 1996). The Finnish reform was more clearly representative of a distinctive strategy of mutual enrichment because the core of the reform suggests a renewal of the contents and working methods of both vocational and academic education through ongoing cooperation between vocational and academic institutions in order "to provide students with an opportunity to make optimal use of local educational provision" (Ministry of Education, 1995; Volanen, 1995).

It has also been suggested that if the various strategies for achieving parity of esteem between vocational and academic pathways are thought as part of a continuum from a tracked to a unified system, mutual enrichment could be interpreted as a type of linkages strategy (Arnman et al., 1997). From this perspective the Norwegian Reform -94 would be closer to a unified system while the Finnish upper secondary experiment, given its specific endeavour to foster the mutual enrichment of the two tracks, would involve moving from a clearly tracked system to a linked one.

The aim of this paper is, however, not to discuss whether a particular feature of a reform would fall into one category or another, but rather to analyse the differences between the Norwegian and Finnish reforms[1] and

[1] Even though the Finnish experimental reform of upper secondary education is sometimes shortly referred to simply as "reform", the aim of this paper is to concentrate on the upper secondary education experiment, *Nuorisoasteen koulutuskokeilut* [Youth education experiments], rather than to discuss all contemporary changes and innovations in Finnish youth education. Another reform project which would be thematically relevant is *Työssä oppiminen* [Learning at work]

the ways in which the various dimensions of each reform are expected to promote parity of esteem between vocational and academic education.

The Contexts of the Norwegian and Finnish Reforms and Their Strategies

The major difference between the Norwegian Reform -94 and Finnish upper secondary experiments is that the Norwegian reform has meant a nationwide introduction of comprehensive upper secondary schools, while the Finnish experiment has involved trying out the possibilities of inter-institutional cooperation in upper secondary education. However, since its beginning in 1992 some features of the Finnish experiment have been accepted in the wider educational system. The Development Plan for Education and University Research for the Period 1995-2000 issued in 1995 stipulated closer cooperation between general upper secondary schools and vocational education institutions (Ministry of Education, 1995). Furthermore, the bill on the organization of education given to Parliament in the end of May 1997 suggests that (i) organizers of upper secondary education will have to cooperate on the local and regional level; (ii) students will have the right to construct personal study programmes across institutional boundaries and the right to be credited for studies in other institutions when their contents can be regarded to represent the same level of education as their studies at their primary upper secondary education establishment.

In Norway, great changes were made to the upper secondary school system in 1994. One of the main goals of the reform was to create a flexible system that delivers both general education and a wide range of skills. Generally speaking, the development of the Norwegian school system has been governed by the Social Democratic governments that have dominated the political life of the country since 1945. One of the basic ideas has been to construct a school system in which children and young people attend

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launched by the National Board of Education after the publication of the Development Plan for Education and University Research for the Period 1995-2000 (Ministry of Education, 1995). However, the implementation of this project began only when the Post-16 Strategies project was starting.

the same type of school as long as is feasible. It is in this context that we must see the strategy and the reform. The reform extends this idea to include the age group between 16 and 19, that is, to cover the upper secondary school. In practice, the intention is that all students from the same area attend the same school from the start of their school years up to and including upper secondary school, no matter which type of education they select in the upper secondary school. As a result of this basic idea and as a consequence of the reform, it was proposed that all Norwegian upper secondary education establishments should be combined upper secondary schools, with the result that academic/general education and parts of vocational training are delivered under the same roof. The final examination will give school leavers higher education qualifications, vocational qualifications or both.

After the first two years in school, alternative programmes for training in business and industry can be followed:

- one year of training or
- two years of training combined with productive work.

Local authorities are responsible for finding school leavers apprenticeship places.

In Norway apprenticeship is part of the upper secondary education system, and consequently the labour market becomes part of the same system. The most important achievement of the reform is that more young people than before receive a complete education lasting three or four years.

In Finland the experimental reform of upper secondary education can be seen as an attempt to find ways to control academic drift, a problem since the comprehensive school reform. The comprehensive school reform of primary and lower secondary education unified the tracked Finnish basic education into a nine-year compulsory school. However, tracks were retained in upper secondary education, and since then general upper secondary schools have been expanding despite the simultaneous extension of secondary education provision by vocational schools. It was originally believed that demand for general upper secondary school places would fall into line with the number of starting places available in higher education (Volanen, 1995). However, the strategy was not successful because the new general upper secondary schools inherited the reputation of the previous secondary schools as the "only significant route to better social status and higher education" (Kivinen & Rinne, 1992).

A reform intended to make vocational education more attractive by bringing general and vocational education closer to each other was prepared in 1971-1978 and implemented in 1978-1988. Between 1970 and the 1980s the number of different school- and college-level vocational qualifications fell from 660 to 250 (Ahola et al., 1991). After a new reform in 1994, there are now 77 school-level qualifications taking 2-3 years and 60 college-level qualifications taking 3-4 years to complete.

In parallel with the reduction of the number of qualifications, the provision of general subjects has been changed. A reform in the 1980s introduced a common general syllabus for the first year of school or college-level programmes. The measure did not turn out quite as expected as the number of drop-outs increased especially during the general studies phase of the syllabuses. (Act Relating to the Development of Secondary Education, 1978/474; Act Relating to the Timetable of Secondary Education Reform, 1980/544; Ahola et al., 1991; Stenström, 1991). Since the 1994 reform, the national core curricula stipulated by the Vocational Education Institutions Act (1987/487) were revised and modularization was introduced as a basis for all qualifications. However, the ways in which programmes have been modularized differ from field to field and school to school; moreover, they do not represent a work-task-oriented but rather a subject-matter and content-based division. After this reform, general subjects take up a quarter of the contents of two-year vocational programmes; their teaching may be partly integrated with the vocational modules, but general and vocational modules must be assessed separately. All qualifications contain three types of module: compulsory, optional and free-choice modules, while general studies, including subjects such as mathematics, Finnish or Swedish, and foreign languages, are compulsory to all students (National Board of Education, 1994).

Finnish vocational qualifications include work-based learning. However, training opportunities have been provided by the schools themselves in their own workshops while the availability of opportunities to workplace learning vary depending on the qualification and field. The Development Plan for Education and University Research for the Years 1995-2000 stipulates that in each qualification the provision of actual training in working life should be extended from 2-6 months to 6 months (Ministry of Education, 1995).

The structural reform introduced along with the curriculum reform of 1994 transforms the former differentiated and parallel school- and college-level pathways into a sequential track, where a lower-level qualification is

a prerequisite for continuing to the next level (National Board of Education, 1994, 47). According to the plan by the Ministry of Education (Ministry of Education, 1995), there will be a further substantial reduction in the number of qualifications while college-level qualifications will be replaced by (higher) AMK (polytechnic) qualifications by the year 2000. The Finnish polytechnic or AMK experiment (AMK is short for *ammattikorkeakoulu*) started in parallel with the experimental reform of upper secondary education. An aim of the upper secondary education experiment was to qualify students for further education in AMK institutions as regards both vocational and academic skills by giving them an opportunity to combine studies at several educational establishments, made possible by inter-institutional cooperation. The AMK experiment did not mean the introduction of a new system, but college-level vocational options based on the syllabuses of the comprehensive school and the general upper secondary school were upgraded so as to make them equivalent to studies on the polytechnic level established in other countries. (Numminen, 1995; Ministry of Education, 1996.)

The Purpose of the Strategy and Reform

One of the basic principles of Norwegian educational policy is that all children and young people have an equal right to education and training irrespective of domicile, sex, social or cultural background and aptitude. All state education is free.

Education and the development of skills have high political priority. The objective is an educational system that combines the highest academic standards with breadth and includes as large a proportion of the population as possible. This is intended to give the whole population a high general level of education and thus improve the quality of individual citizens' life. It is also one of the main preconditions of increased productivity and of ensuring the development of the Norwegian welfare state. (The Royal Ministry of the Church, Education and Research, 1994a; 1994b.)

Post-16 education is expected to achieve a dual social goal: it is designed to develop skills that are needed for specialised tasks in working life and to give students a general competence, broad-based enough to serve as a basis for a possible retraining, as well as providing students with the competence that they need to become active participants in the society of the future. A Government White Paper (NOU 1996:22) states that one of

the most important aims of the reform is that students in the upper secondary school system acquire "competence for action", meaning the knowledge, skills and attitudes necessary to solve problems and fulfil tasks both in working and in everyday life.

On the level of the individual student post-compulsory education and training should provide *valid knowledge* to enable students to cope with the challenges of life, *practical skills* to equip them for working and social life, *theoretical knowledge* to give them overview and insight, *integrated attitudes* to sustain professional performance, *ethical values* to underpin its civic and humanitarian dimension, *standards* to create a sense of joint responsibility, equal status and responsibility for national and global development, *aesthetic standards* as foundations of personal professional performance and the ability to appreciate other people's contributions, and *personal strength* to make the best choices and cope with uncertainty. In short, the final aim is to provide the individual with the strength to cope with his or her own life, take on responsibility for the well-being of others and have enough energy reserves to stand by them.

In Finland the purpose of the experiment was not to create a unified upper secondary education; however, there are some similarities with the objectives of the Norwegian reform. Thus both the Finnish and Norwegian Ministries of Education emphasize the role of individuals and making use of new conceptions of knowledge. In Finland the end of the 1980s saw an assessment by the Ministry of Education of the functioning of the Finnish educational system and educational policy from the viewpoint of educational processes, educational outcomes and the school system. The educational system was seen as too divided in view of the new requirements of working life, which included the need for versatile work-related skills. Vocational education had developed occupation-specific forms of training with unrelated contents. Barriers between different general and vocational education institutions were high. College-level vocational education had too low a status as compared with polytechnic education elsewhere in Europe. (Ministry of Education, 1989; Numminen, 1995)

The low esteem accorded vocational (college-level) education in Finland was reflected in young people's preference for applying for places in institutions of higher education. Only a third of the students passing the Matriculation Examination were able to find a place in higher education. Consequently, young people were taking school- or college-level programmes at vocational schools with no intention of remaining in the occupations that the courses were supposed to prepare them for. They

accumulated several qualifications one after another and increasingly dropped out of the programmes. As students were rarely credited for earlier studies, total study times grew and the average graduation age rose considerably. (Ibid.)

On the basis of this assessment, the Ministry of Education defined several objectives to guide the development of the Finnish educational system as a whole. While it should continue to foster educational equality between different population groups, its teaching contents should reflect the new occupational requirements arising from a changing labour market and prepare students for increasingly diverse educational demands. This was judged to require an increased general education component. Revised conceptions of knowledge would be adopted to guide learning processes. Individual student choice and continuing education would be encouraged. Accordingly, barriers between vocational and general, scientific and practical, theoretical and vocational curricula should be lowered and the curricula themselves should be made mutually compatible by establishing cooperation between different educational levels and spheres. This cooperation should include the administration of the different sectors. (Ibid.)

The experiments with upper secondary education and AMK institutions were launched in 1992. The aim was to gain experience that would be useful in the development of post-comprehensive school-based education (Act Relating to Experiments With Youth Education and AMK Institutions, 1991/391). The organization of the experiments was open and decentralized along the lines of the educational planning strategy adopted in the 1990s. They were both planned and implemented in a less centralized and more open manner than previous reforms. Instead of following general national models, local or regional experimental units were to create new curriculum options within broad guidelines. (Volanen, 1993; Numminen, 1995.)

The Reforms Themselves

The Norwegian Reform -94

The goals of the Norwegian reform discussed above involve all students in the upper secondary school, no matter what kind of educational pathways they choose. Reform -94 created an upper secondary school consisting of one-year Foundation Courses and of Advanced

Courses I and II each lasting a year. The main principle guiding vocational training is that the first two years will take place in school, where the student takes a Foundation Course and an Advanced Course I; the third year, when he or she takes an Advanced Course II, is delivered in business and industry. This is called the "2+ model". After the first two years the student may choose between alternative workplace-based training programmes, either a one-year programme or a two-year programme combining training and productive work. The training establishment receives a government grant for developing its vocational training staff and facilities. Both those who take their final training at a training establishment and those who complete their vocational training at school because they have been unable to find an apprenticeship place receive the same craft certificate when they have passed the test. The general and business studies programme, which leads to university entrance qualifications, is a three-year school-based programme. On the Foundation Course level there are 13, on Advanced Course I level 78 and on Advanced Course II level 225 different courses available, each leading to a vocational certificate. The most dramatic changes have taken place within vocational and technical training. Such is the basic framework of the reform, which, in relation to our theme, has had the following implications:

- The new upper secondary schools are comprehensive schools.
- The number of Foundation Courses has been reduced from over 100 to 13.
- The number of theoretical (academic/general) subjects taught on Foundation Courses of vocational programmes has been increased.
- As regards flexibility and student choice, after finishing the Foundation Course of their choice students are able to choose from a predefined range of courses on the Advanced Course I level, and the same applies when they continue to an Advanced Course II. Students who have chosen a vocationally oriented education may gain university entrance qualifications by taking extra subjects from the general studies area after their first two years, or even after having achieved a craft certificate. Admission to a higher course in an area of study is based on passing the lower course.
- As regards qualification and certification, all upper secondary education shall lead to partial or full qualification, comprising either vocational qualifications or university entrance qualifications or both.
- Employers' and employees' organizations take an active part in the work of securing the requisite number of apprenticeship places, collaborating with school or provincial authorities.

The upper secondary education curriculum consists of

- *a core curriculum* which defines the overall objective for primary, secondary and adult education and
- *subject syllabuses* which define the aims and main elements of the individual courses.

The core curriculum is based on the aims defined in the educational legislation, and is a binding document of fundamental importance. It lays down the overarching and central principles underpinning teaching contents and methods in secondary education. As for subject syllabuses, the following principles have been introduced:

- They are broad and applicable regardless of where the training takes place and of which groups are being trained.
- They are divided into modules. The modules can consist of one subject or part of a subject. The division into modules is a means of accommodating the needs of certain students for linking sections of their education in order to gain recognized qualifications.

The Finnish Experimental Reform of Upper Secondary Education

The central idea of the Finnish upper secondary education experiment is that vocational and general educational institutions operating in the same area should organize teaching jointly so that students can construct their own study programmes by taking advantage of the variety of education available locally. Students can study either at their own school or at other schools. The experiment does not introduce any new curricula, but students' increased freedom of choice allows them to include into their study programmes new subjects from the common provision of the schools of their area. A general qualifications framework is provided by defining the number of compulsory, optional and free-choice courses that the student has to take to complete a qualification. Normally, outside the experiment, the number of free-choice courses that a student could include in a two-year vocational qualification would represent 5 out of a total of 80 credits (National Board of Education, 1994). Depending on whether they have chosen the short or advanced mathematics course, general upper secondary school students have to take 45-49 compulsory courses when the minimum number of courses required to complete the general upper secondary programme is 75 (Council of State Regulation on the Curricu-

lum of the General Upper Secondary School, 1993/835). In the experiment, the number of compulsory subjects has been considerably reduced. Depending on the length of their programme, vocational school students may undertake 30-40 per cent of their studies at other institutions, while general upper secondary school students may take 40 per cent of their courses at other institutions. (Numminen & Piilonen, 1992).

The central elements guiding the work of pilot units in their experimental process are: (i) cooperation between general upper secondary schools and vocational institutions; (ii) giving students the right to construct personal study programmes by choosing courses from both the vocational and general education institutions in the area; and (iii) looking for new forms of learning that make use of institutional differences and the diversity of learning environments (Numminen et al., 1996).

Sixteen localities and a total of 134 educational establishments are taking part in the reform. A third of these are general upper secondary schools, the rest being vocational institutions serving different occupational fields. Each locality participating in the experiment has at least one upper secondary school and one vocational institution while the biggest experimental unit comprises 27 participating establishments. The sites include both urban and rural localities. During school year 1994-1995 the experiment involved a total of 33,000 students. (Ibid.)

Each local experiment has an elected leadership, and participating institutions have made a cooperation agreement covering joint teaching, administration, financing and the apportioning of costs. The local leadership represents the different participants: chief education officers, headmasters, teachers and students. However, the leadership and certain key groups are supported with targeted training on the national level to address perceived needs arising from the experimental process. Furthermore, exchange of ideas and knowledge between pilot units has been supported by the publication of a government-financed bulletin and follow-up reports. Local pilot units plan and carry out the experiment autonomously within their area. They have created a wide range of adaptations. (Numminen & Piilonen, 1992; Numminen et al., 1996).

Organizing inter-school cooperation requires a number of adjustments in curricula: (a) periodising and/or modularising teaching, (b) joint timing of study periods and (c) synchronizing the timetable and adopting a nongraded system that does not bind a student to a group of other students following the same study line. After the start of the experimental upper secondary school reform in 1992, the periodization and modularization of

teaching have been incorporated into the new national core curriculum guidelines for vocational education issued in 1995 (National Board of Education, 1994). Drawing on their experience of periodization experiments since the 1980s, general upper secondary schools have already made extensive use of these methods.

Furthermore, both general upper secondary schools and vocational education institutions have received new instructions for constructing their curricula so that students can include some courses from other schools in their study programmes. The new curriculum guidelines issued by the National Board of Education give schools more autonomy in designing their actual study programmes as a part of each school's developmental work. Another major change concerns Matriculation Examinations. Traditionally, altering the Matriculation Examination has been a hot issue in Finland, but since spring 1996 students have been allowed to take it in three parts (Matriculation Examination Act, 1994/1000). The reform followed the establishment of nongraded, modularised and periodised general upper secondary schools.

Differences and Similarities

The Norwegian Reform -94 has been a thoroughgoing structural reform that has redefined the relations between vocational and academic tracks, while the Finnish experimental reform of upper secondary education has made the articulation of the Finnish two-track system more flexible by allowing students to make choices across them. The two projects' relations to working life are also different. The Norwegian reform gives high priority to networking between schools and enterprises. In the Finnish experiment networking primarily involves educational establishments. However, vocational schools provide both school-based and workplace training. Both the Norwegian Reform -94 and the Finnish upper secondary education experiment adopt modularised syllabuses to support flexibility. Table 2 compares the main features of Finnish and Norwegian reforms according to a model and framework adopted from Spours et al. in this book.

Table 2.
Main Features of the Finnish and Norwegian Reforms

	Experimental reform of upper secondary education (Finland)	**Reform -94 (Norway)**
Origins	Students drifting horizontally through the educational system seen as a structural problem	Lack of vertical progression Vocational students moving sideways between Foundation Courses Extension of the comprehensive school principle to include upper secondary education
Participation	Aiming to serve the whole age cohort. Participation in the experiment included 20.5% of vocational and 12.2% of academic starting places in 1992. In general, there are more upper secondary study places available than the size of the whole age cohort, while 85-90% of the cohort participate in upper secondary education.	A statutory right to upper secondary education is given to all 16-19-year-olds
Position in relation to other routes	Combined route involving existing vocational and academic routes	Reform -94 provides a single educational pathway for general as well as vocational education
Content	Combinations of general education and vocational knowledge and skills in one (or two) of a wide range of areas or emphasis on either general or academic studies according to a student's choice	A vocational student may cross over to an academic course of study, but not the other way round

Table continues

Table 2. (continued)
Main Features of the Finnish and Norwegian Reforms

	Experimental reform of upper secondary education (Finland)	**Reform -94 (Norway)**
Organization	School-based	School- and enterprise-based (the 2+ model)
Progression and improving the status of vocational education	Improves route to higher education, widens opportunities for constructing vocational study programmes leading to university entrance qualifications	Reform -94 makes it possible to acquire university entrance qualifications on vocational as well as on academic lines of study (double qualification)
Concept of parity	Parity through schools' opportunities to offer studies qualifying for HE in cooperation with other schools	Parity through double qualification and an increased amount of theoretical subjects on vocational lines of study
Main strategy for enrichment	Students' freedom of choice across routes and new combinations of contents through teachers' collaboration across routes	Combined schools, double qualification

Why This Strategy and Reform?

Norway

Generally speaking, the reform strategy adopted and the reform undertaken in upper secondary education in Norway is a continuation of the uniform or comprehensive school (*enhetskole*) principle in Norwegian educational development. With Reform -94, the concept of the comprehensive school has been extended beyond the primary school and the lower secondary school to also cover the upper secondary school. The

basic idea behind this development in the school system is the idea of equalisation. The authorities have argued that educational expansion is necessary to ensure that all social groups have the same educational opportunities. Further, in the Norwegian reform the concept of equalisation also implies a general desire to create possibilities for achieving equality of esteem between the different educational pathways in the upper secondary school. Other, more practical reasons behind the reform are the weaknesses and failures of the pre-1994 school system. Among the features of Norwegian upper secondary education that have made the current reform necessary are the following:

- The options available to students were too numerous and confusing;
- Many courses did not provide a three-year education and therefore did not lead to a vocational certificate;
- Progress from one level to another was poor;
- The link between school and industry-based training was too weak;
- There were too few apprenticeship places.

In the Norwegian case we have attempted to give some idea of how the reform is thought to be able to achieve the goals and address the problems listed above.

Finland

A review of the initial reform steps taken in the 1980s clearly reveals that they were intended to meet system-level problems very concretely linked with the disparity in the esteem enjoyed by general and vocational education both on upper secondary and tertiary level. The new educational system envisioned by a working group appointed by the Ministry of Education (1989) consisted, in fact, of a unified upper secondary education and a binary model of tertiary education. Contemporary changes in the political climate (towards neo-liberal conservatism), however, made the unification model ideologically unacceptable. Academic and vocational education were kept organizationally separate - almost explicitly in order to preserve the status of general upper secondary schools. However, general and vocational upper secondary schools are both allowed and encouraged to cooperate on the local level and, by doing so, broaden the scope and variety of courses available to their students. This solution made it politically acceptable to also incorporate into the reform the liberal ideas of decentralisation and individual choice. Another argument for cooper-

ation between schools stems from the recession of the 1990s: inter-school cooperation can be cheaper than when each school offers all its courses to its own students alone.

The experimental reform allows students to construct individual study programmes by combining courses taught at local academic and vocational schools and, thus, to enrich their academic programme with vocational studies and vice versa. Further, it is believed or hoped that, after an initial learning phase, schools and teachers will begin to cooperate also in designing and organizing the contents of their courses, create new integrated projects and develop their teaching methods. This would mean a second stage in the mutual enrichment of academic and vocational education. Together these two forms of enrichment form the basis for characterizing the Finnish upper secondary education reform as an example of the mutual enrichment strategy. On the other hand, it is to be noted that not all features of the Finnish reform are connected with the idea of mutual enrichment or even of parity of esteem. The reform has several causes and is determined by a number of distinct factors. For instance, cooperation between general upper secondary schools cannot necessarily be taken as a feature promoting mutual enrichment. Economic interests in cost-cutting may also partly motivate some of the cooperation.

The parallel Finnish reform of tertiary education involving the replacement of the former college-level vocational education by *Fachhochschulen*-type AMK education is, however, distinctively a case of enhancement strategy. Table 3 compares some more features of the Finnish and Norwegian reforms on the basis of the model and framework presented by Spours and his co-authors, this book, above.

Table 3.
Features of the Enrichment Strategy in Finland and Norway

Features of enriched tracks	Finland	Norway
Certification	Additional or double certification, while a framework of choice for combining studies across different routes allows giving credit for studies in other schools	Either university entrance qualifications or a vocational certificate or both
Combinations of academic and vocational study	Enriching vocational studies with more academic studies or other vocational studies, or enriching academic studies with vocational studies	Enhanced opportunities to enrich vocational studies with more academic studies, or enrich academic studies with vocational studies
Student movement between routes	Encouragement to combine academic and vocational studies	The possibility to change from vocational to academic lines of study is designed to improve the motivation of young people to choose a vocational line of study
Organisation	Primarily school-based qualifications; training is included in vocational education and links to working life are also allowed to academic students	School- and enterprise-based education (the 2+ model)
Equivalences and recognition	Recognition of former studies and parallel studies in vocational/ academic schools	Nationwide reform. All lines of study recognised everywhere.

Table continues

Table 3. (continued)
Features of the Enrichment Strategy in Finland and Norway

Features of enriched tracks	Finland	Norway
Pedagogic innovations	Open learning situations arranged across subject categories through collaboration between teachers and schools	New ways of teaching/ learning: Interdisciplinary cooperation among teachers across former barriers between academic/ vocational teachers Project work Problem-oriented learning
Progression	Emphasis on wider opportunities to qualify for HE	Double qualification Right to documentation of partial competence at any stage in upper secondary education

The Progress and Problems of the Reforms

Norway

A. Student Recruitment and Study Progression. The Reform -94 is a national reform, which means that in the middle of August 1994 all upper secondary education in Norway had to adapt to the new model. Accordingly, students in vocational education have now finished 2 years in secondary school and have started their apprenticeship period in business or industry, which will under the new model take them one or two years.

The most important achievement of the reform is that more young people receive a complete three- or four-year post-compulsory education. It is true that some 16-year-olds do not apply to upper secondary school, but they are fewer than before. Of all the students on vocational lines of study who complete an Advanced Course I, fewer than 80 per cent apply for an apprenticeship or an Advanced Course II. Seven per cent apply for

a third year on advanced academic courses which will qualify them for further studies on university level. It is not surprising that many of those who do not apply for any kind of further education fail or have low marks. This is confirmed by studies of students' marks from their Foundation Course and what they apply for after finishing their Advanced Course I. In 1996, 11 per cent of those who were offered further education declined the offer (Vibe et al., 1997).

An often-heard criticism of the reform is that there is now too much emphasis on theoretical knowledge on vocational lines of study. A comparison of obligatory academic courses before and after the reform shows that on the old vocational lines of study students had two hours of Norwegian, two hours of English, and on some lines of study two hours of mathematics and/or physics over a two-year period. After the reform, a Foundation Course and an Advanced Course I combined include 4 additional obligatory hours of natural sciences and 2 additional hours of social studies. For many students this programme appears to be too (theoretically) demanding, especially since in terms of knowledge and abilities the course requirements are on the same level as for students who have studied these subjects for the same number of hours on academic lines of study. In addition, specialized courses (on subjects related to the vocational area) have become more theoretical; 50 per cent of the content is supposed to be theory and the remaining 50 per cent comprise practical work in workshops and laboratories. Research also shows that only 41 per cent of students who have failed in one or more subjects follow the normal progression all the way to the third year, while the corresponding percentage for students with the best marks is 86 (Vibe et al., 1997).

Apprenticeships. When students apply for a secondary school or apprenticeship, they can list up to three choices, in order of preference, and are guaranteed one of their choices. In 1996-1997, a little over 60 per cent of the applicants were granted their first choice. There are great regional differences here, ranging from 85 percent in some provinces to 40 in others. Many students who start an education on the Foundation Course level end up with a different programme than the one they had originally chosen.

Most students do get an offer of apprenticeship or an Advanced Course II, even though this may be their second or third choice. Compared to the situation before 1994, a great deal has been achieved with the reform. Before it was usual for many students to move sideways in the system. That is, they took several Foundation Courses without progressing further to complete an education or obtain a vocational certificate. In many cases they also

grew too old and exceeded the upper age limit for completing a vocational education with certification that would enable them to be employed in the relevant occupation. After the reform, apprenticeship contracts have gone to 18-year-olds, while the older students who are not "reform students" have been excluded (Vibe et al., 1997).

Student choice. Students who choose vocational lines of study can, after finishing an Advanced Course I, choose to take a third year of academic studies to qualify for further studies at the university. Quite a few find that they want to continue their education after secondary school, to be able to enter higher education programmes at colleges and universities.

It turns out that there are more girls than boys in this group. This is especially true in the health and social work line of study. The explanation for this high proportion of girls is that in addition to the fact that they want a better education it is difficult to get apprenticeships in health and social care. Many local and provincial authorities have been unwilling to train enough apprentices in these areas, preferring to employ untrained workers because they are already working on a temporary basis and are less expensive to employ than trained workers. The lukewarm attitude of public institutions, as employers, towards reform students has been justifiably criticized by many people.

Study progression in the secondary school. In the classes that have been investigated to date, 64 per cent of the students have progressed normally in their studies up to the start of their third year. One reason for this is that companies are now offering more apprenticeships than before the reform. A reason why so many have been offered apprenticeships are undoubtedly the positive trends in the Norwegian economy in recent years, characterized by greater industrial activity and lower unemployment (Vibe et al., 1997). It must also be mentioned that the state has granted training companies a larger subsidy per apprentice than before.

One of the objectives of the reform has been that about a third of the age group should attain occupational competence each year. This now seems a difficult goal to achieve; the actual proportion of young people gaining vocational qualifications each year is closer to a quarter. Part of the reason is that about a half will obtain eligibility for university studies, a higher proportion than expected.

The vocational areas with high enrolment rates are chemical and processing trades, building and construction, woodworking, hotel and food-processing trades, technical construction, and health and social services. Enrolments are somewhat lower in mechanical engineering. More Ad-

vanced Course II study places have also been established in design, electrical trades and health and social services.

Well-being. All of the research shows that there is a strong correlation between students' feeling of well-being and the progress of their studies. The most important reason for this must be human relationships. Girls are more concerned about progressing in their studies than boys. Students on the vocational lines of study have a more positive attitude towards teachers of the vocational subjects than towards the theoretical subjects and their teachers. This also reflects a somewhat negative attitude towards theorizing in general.

Some research has also been done on how students' feeling of well-being relates to the size of the school. There is nothing to indicate that students in small schools would be happier than their fellows in large schools.

Nor is there any measurable difference in the feeling of well-being among students in combined schools (schools with both vocational and academic lines of study) and in schools with only one kind of provision. There are still many purely academic schools (*gymnas*) and purely vocational schools, although it has been a goal ever since the Secondary Education Act of 1976 that secondary schools should preferably be combined to ensure social and academic diversity in the school environment.

Most dissatisfied and unhappy are students who came in through the wrong door, so to speak, starting on a basic course completely different from their first choice. They also display the highest drop-out rate. There will always be areas where there are many more students who would like to get an education than there is demand for them on the labour market. (Egge, Grøgaard, Markussen, & Midsundstad 1997)

Counselling services responsible for students outside the system. Some of the reform students do not apply for the upper secondary school. They turn down the places of study they are offered, do not show up when school starts or quit during the school year. There is a counselling service for these young people in each province responsible for keeping track of these students and giving them help and support. An average of 10 per cent of each year's lower secondary school leavers are in this category.

Questionnaire studies among students belonging to this group show that they give the following reasons for dropping out: school is too theoretically oriented, the teachers are not particularly good, they themselves do not view school as especially useful, it is boring, they are treated like children, they have too little influence, or they find many subjects too

difficult. Many also say that they have a stronger social network outside school than in school.

Most young people will come back to the upper secondary school sooner or later, even if they may drop out for a time. A study covering the years from 1995 to 1996-1997 showed that 65 per cent of the young people in this group were in one way or another registered as students during the period.

One of the purposes of the follow-up service is contacting businesses, public administration and public institutions and try to arrange young people a combination either of school and work or of school and treatment. One study which followed a selected group of adolescents showed that those who succeeded best were on a programme combining training and work. For many young people who are tired of school, interim provision of this kind may be an important stimulus to continue their education towards vocational competence or university entrance qualifications.

The follow-up counselling service is an important activity to help the group we are talking about. Although Norwegian schools have always offered a counselling service, the follow-up service is more systematic because schools are required to inform it when students drop out. Nevertheless, many people have the impression that the help that each individual student receives may vary somewhat depending on what kind of resources can be mobilised in each case. Of course, there are also many adolescents who cannot be reached despite of all the efforts. They are often young people with serious adjustment difficulties often combined with drug/alcohol problems.

However, it may undoubtedly be concluded that as compared to previous forms of action, the follow-up counselling service does reach more students who previously drifted around in society without anyone having an overview of their situation. The new law requires the follow-up service to maintain just such an overview. (Egge et al., 1997)

Grades - achievement. The motivation to gain good grades is perhaps stronger today than it was before. This is especially true of the academic lines of study, but students on vocational lines are also aware that they need good grades to succeed in the competition for apprenticeship and vocational training.

Studies of both the primary and the secondary school system show that girls are consistently better at their studies and more motivated to do well than boys. Girls seem to adapt more easily to the changes involved in the transition to the upper secondary school. Boys take a long time to adapt;

they "grow up" and realize the importance of their studies only at the end of their Foundation Course or at the start of their Advanced Course I.

There is also a strong relationship between Foundation Course grades and students' feeling of well-being and their perception of mastery of the school situation. The studies show that this carries greater weight than factors such as parents' level of education and social status. This is especially true of pupils on vocational lines, a finding that differs from results of studies of the primary school level.

For students on the vocational lines there is little connection between the time and energy they spend at home on homework and studying, and their school achievements. The opposite is true on the academic lines. Thus, achieving good results at school through efforts limited to school hours is easier on the vocational lines of study. (Vibe et al., 1997)

B. Work With the Learning Environment. The Norwegian Reform -94 is not merely a structural reform; it is a reform of the contents of education where the aim is to change the nature of school itself - the academic contents, students' and teachers' working methods and evaluation methods. Creating environments that will promote development and creativity in all student groups and on all levels of the educational system has been an important consideration throughout.

Cooperation. Cooperation is one of the areas in which the reform entails new and high expectations of both teachers and students. It chiefly involves project work, interdisciplinary work and academic progression. It appears that planning and preparation are the areas where cooperation is most common while there is less collaboration during the actual teaching. The studies carried out to date show that a clear majority of teachers on both the vocational and academic lines feel that there is far more cooperation among colleagues than before the reform. This can be explained by the new agreements with teachers' unions about working hours and, partly, by the new curricula that have been developed as part of the reform.

As regards the quality and climate of cooperation, teachers feel that it is about the same as before the reform, possibly somewhat better. Many think that the climate of cooperation among teachers has improved while cooperative relationships with the provincial authorities have clearly become more difficult (Blichfeldt et al., 1996). Even though a majority of teachers consider that cooperation has improved, it is still mostly organised in the same way. Teachers are critical of some aspects of the obligatory cooperation. They feel that too much obligatory cooperation can detract from the spontaneous and informal academic cooperation among teachers

that they believe to be essential for developing good cooperative projects (Monsen, 1997).

Teachers try to involve students in cooperation on instruction, although only to a limited degree. Experience gained from the reform to date has not led to an increase in student involvement. Teachers feel that a majority of students are not very interested in participating in planning their own programmes. Teachers who are sceptical of extensive cooperation with students feel that the academic requirements of the examination system and students' orientation towards examination results work against the extensive cooperation entailed by the reform.

Students agree with teachers that cooperation is limited, but in contrast to what teachers believe, they say that they do want to have more influence on the content and working methods used in their school subjects. They claim that this will improve their motivation. This desire for increased influence cannot be traced back, to any particular degree, to the perspectives presented in *Veiviseren* [Trailblazer], a guidebook for students, in which participation and learning are linked together. Up to now, few students have studied and used *Veiviseren* in their cooperation with teachers to develop a better learning environment in the class. Similarly, few students are familiar with and interested in the idea of "*Ansvar for egen laering*" [Taking responsibility for one's own learning], which also conveys the collective dimension of learning (Monsen, 1997).

The increased cooperation required by the reform, and the teachers' need for a significant increase in cooperation, takes up a great deal of time. Some teachers are critical of too much time being used this way. They do not want "cooperation for the sake of cooperation", as it was put in several interviews (Blichfeldt et al., 1996).

Time for meetings. Organizing and planning school activities has become a more extensive and complicated business than before the reform, making it more difficult to achieve an overview. Those involved feel that they have less influence on and responsibility for school activities at the same time as there is more control by higher levels of the school sector. Despite a considerable increase in the number of meetings and committees in which teachers participate, a feeling of frustration is spreading among the teaching staff. There are many meetings which are supposed to improve the participants' understanding of the reform and increase their feeling of ownership, but which are, instead, for some reason or other, perceived as a burden and as waste of time (Monsen, 1996).

There is a tendency for more and more time to be tied up in formal meetings. It is therefore important that principals and headmasters find ways of organizing committee work which will give teachers enough time for informal academic discussion alongside more formal meetings. There is a need to consider what could be done in smaller groups, or delegated by the school leadership. There may be reason to take a closer look at the "meeting culture" that is developing at each school so as to ensure that democracy and participation are not interpreted in a way that makes them synonymous with large meetings with many speeches. It is clear that if co-workers are to be able to influence and enrich one another's work, they must meet to cooperate on academic issues, but it is necessary to be on guard against letting good intentions drown in bureaucracy and paper-work.

Management by objectives. The studies all show that teachers' attitudes towards the new curriculum are positive, and that they feel it will have an effect on the actual work in the classroom, even though there are naturally some problems about carrying out all its good intentions. Different teacher groups have different views about its practical implementation in the classroom.

Most teachers of academic subjects teach according to the way in which the subject has been set out in the textbook, while vocational teachers have a greater tendency to develop their own teaching programme. Vocational teachers also prepare their teaching plans in some degree of cooperation with the students, while academic teachers rarely engage in collaboration of this kind. It is interesting to note, however, that academic teachers express a wish to plan their teaching in cooperation with the students, if only the conditions for doing this were improved (Blichfeldt et al., 1996).

An increasing number of teachers (compared to school year 1994-1995) would like to apply management by objectives more actively when developing teaching and working plans. This is particularly true of those on vocational lines of study. However, most of the teachers feel that it is difficult to persuade students to participate. Students consider the principle of management by objectives useful only in connection with examinations and tests. Because of this, teachers find that it is simpler to use the textbook as a basis when telling students what they expect and require of them. Experiences gained so far suggest that cooperation between students and teachers to develop objectives-oriented teaching plans is more an ideal than a reality (Monsen, 1997).

Differentiation, evaluation and assessment at school. As of 1997, all young people in Norway will have the right to 13 years of education regardless of their social status, sex, race and where they live. The education is to be adapted to the abilities of the individual student. This is rather an ambitious idea that cannot be put into practice easily or immediately.

Many teachers in upper secondary schools struggle to find acceptable ways to differentiate their teaching in their everyday work. The teacher's strategy for differentiation must be consistent with the goals set in the curricula and should also be adapted to students who have great difficulties with academic subjects such as English, mathematics and natural sciences. The gap between curriculum goals and students' abilities is a source of frustration to teachers. It is a new and unfamiliar educational challenge for many teachers in upper secondary schools. It also opens up the possibility of new kinds of cooperation, both between various teacher groups and between groups of students.

Many people have felt that one result of the wide variation in the students' abilities will be that a large proportion of them will have problems with passing examinations. However, the results of the 1996 examinations show that 92.1 percent of students on an Advanced Course I passed in all subjects. On Foundation Courses the figure was 89.3. The Minister of Education, Reidar Sandal, has seen this as a refutation of the myth that students on the vocational lines cannot cope with the academic subjects. As many as 97-99 per cent of vocational students have passed in these subjects (Sandal, 1996).

Evaluation both of students and of schools is one of the main aspects of the reform that the authorities want to keep close track of through the first four years of its implementation. The background for this is the central role played by evaluation in relation to the content and the further development of the school reform. Evaluation must be in accord with the content of the reform because school activities are to a great degree steered by the methods used in evaluation.

The intention is to focus evaluation and examinations on the students' "production", not on their "reproduction" of knowledge. In the investigations by Blichfeldt et al. (1996), about half of the teachers did not think that the guidelines and memoranda issued on student evaluation were clear and simple enough to put into practice. This is an important point to remember in further quality control work.

The investigation also showed that about six out of ten teachers agreed that they wanted to involve students in the evaluation process, but the same

proportion felt also that this was not a practical possibility. As regards the academic standard of the students taking the examination, the study showed that more than half of the teachers felt that academic standards had declined in their subject.

An analysis of a sample of examination papers to see whether the questions tested the reproduction or production (application) of knowledge revealed that the main emphasis is on reproducing knowledge. Seventy-two per cent of the teachers agreed that students are being evaluated in more or less the same way as before the reform.

There seems to be little systematic internal school evaluation, and in cases where this has been attempted, many of the teachers feel that the information gained is not very valuable. Little time has been set aside for working on the evaluation of schools, and teachers feel that schools allocate little time for reflecting on experiences of the reform. There is a clear difference, however, between what teachers think has been done and what principals report that they have planned and carried out.

In-service teacher training. Significant efforts have been made to provide teachers with in-service training in connection with the reform. To date, two thirds of the teachers have received in-service training. Training provision has been weakest in the academic fields. A majority of teachers are well satisfied with the intentions and goals of their in-service training, but not with the actual implementation of the programme.

Research shows that in-service training increasingly focuses on the contents of the reform. Such topics as new working methods, project work, interdisciplinary approaches, new evaluation methods, etc are becoming more and more central in in-service training as school structures gradually fall into place and it becomes possible to concentrate on the actual contents of the reform.

The great increase in in-service training for teachers in connection with Reform -94 also affects initial teacher training. The ideas and new educational practices introduced with the reform are now exerting an influence on the contents and implementation of the new training programme (Government White Paper, 1996).

Finland

Progress up to Date. On the basis of the experience gained in the Finnish experimental units, it has been decided to focus the process of organizing cooperation between vocational and academic education establishments on promoting the interactive development of three major areas: diversifying

study programmes, scheduling, and inter-institutional curriculum development (Numminen, 1997, Table 4). The different phases of the process are expected to complement rather than exclude one another.

Table 4.
Developmental Phases of Inter-Institutional Cooperation (Numminen, 1997)

Area of development	Phase I	Phase II	Phase III
Diversifying study programmes	Single courses	Pre-defined pathways, vocational packages, matriculation packages, double qualifications	Personal study programmes
Cooperative scheduling	Joint cooperation periods between schools at particular times of the week	One exchange day per week at other schools; teachers alternating periods at different schools	A common timetable for the entire experimental unit (group of schools)
Inter-institutional curriculum development	Extra free-choice courses	Comparison of curricula, crediting students for earlier studies, credit transfer	Cooperative inter-institutional planning of curricula

In their self-evaluation concerning school year 1995-1996, two or three of the 16 experimental units said that they had offered personal study programmes, while other units considered their approach less far-reaching, representing, rather, Phases I and II (see Table 4). (Numminen et al., 1997) Such differences in the self-evaluations of the experimental units are reflected in the degree to which student choice is accepted in their curricula;

this varies from school to school and unit to unit. Small experimental units and units with previous experience of cooperation seem to have been best able to network and create the cohesion needed for the practical arrangements (Numminen et al., 1996; 1997).

Enriched Studies and Parity of Esteem Between Vocational and Academic Studies. On the individual level, the strategy of mutual enrichment has meant increasing student choice in syllabuses and offering possibilities to build differing, flexible pathways to further education with a view to improving student motivation. On the institutional level, making curricula more flexible is supposed to enable students to exploit the education available through networks established with other educational institutions and with working life.

Flexible curricula featuring student choice may have changed the definition of key qualifications in several ways. They may have enhanced the position of general subjects in vocational schools because vocational school students are now allowed to study general subjects at general upper secondary schools or take part in the Matriculation Examinations arranged by them. General subjects such as Finnish/Swedish as the mother tongue or the second official language, mathematics and one foreign language are still the core subjects both in the Matriculation Examination and among subjects taught in vocational education institutions as basic studies obligatory to all students. They have been considered important as key qualifications for further education (Ministry of Education, 1989).

The reform has also opened up two ways of redefining vocational skills. First, increasing student choice with the help of networking has made room for new minor combinations in vocational syllabuses. For example, a nursing or social work student may take a free-choice course in car repairing or cooking in another vocational education institution. Similarly, a student of car repairing may take a course in the psychology of customer service in a general upper secondary school. In this sense the strategy of mutual enrichment has made it possible to rethink the skills needed in different occupations, allowing students to combine courses with a view to meeting new occupational qualification requirements. After the national core curriculum reform introduced in vocational education in 1995, a minimum proportion of free-choice courses (5/80) became available to students not taking part in the experiment. Such free-choice courses may be studied either at the students' primary institution or at other institutions even though schools have no obligation to offer them as part of inter-institutional cooperation (National Board of Education, 1995).

Secondly, according to the law guiding the local-level planning of the experiments, vocational students may include into their study programmes up to 30-40 per cent of courses taught at other vocational institutions, as part of other vocational lines or at general upper secondary schools. Such developments in student choice and the redefinition of core skills depend very much on the vocational education institution's own decision-making and interpretation of the reform guidelines. Vocational establishments have the right to define whether such studies are to be included in their students' study programmes as basic studies, orientation studies or advanced studies. Establishing such a broad range of student choice requires sophisticated networking and scheduling strategies. (Numminen & Piilonen, 1992; Numminen et al., 1996)

In addition to combinations of academic and vocational modules made possible by the principle of student choice incorporated into curricula, the mutual enrichment of the two traditions is expected to involve the creation of new contents for the modules themselves through teacher collaboration across different schools. Most experimental units have arranged collaborative courses in 1995 and 1996. The number of such courses has been increasing over the years, with 43 courses of the kind being organized in 1996. These projects have come into being through collaboration by a number of teachers across subject-matter boundaries; students have been made to explore such themes as local environmental questions, the international perspective on a local level, arts and cultures, information and communication, social problems and entrepreneurship. These courses have been made available both to vocational and academic students. (Numminen et al., 1997)

Results. Students have been willing to take advantage of the range of choice offered by the new curricula both at other schools and their own school. According to surveys carried out in spring 1994 and spring 1995 (Mäkinen et al., 1997, 104), a quarter of the students had taken or intended to take at least one course from other schools to enrich their study programmes. Practical skills and interest-oriented studies have been the most prominent choices. During school year 1994-1995, more than 50 per cent of the students attending the experimental schools who had taken courses at other institutions made a choice falling into one or other of these two categories. Vocational orientation studies were chosen by 15 per cent of experimental school students, while the number of students completing vocational preparation courses leading to an extra vocational qualification or general education studies leading to the Matriculation Examination has

been small: between 5 and 2 per cent have taken such courses in school year 1994-1995. (Vuorinen et al., 1995; see Numminen, 1996, 29) General upper secondary school students choose interest-oriented or practical skills studies more often than vocational school students. In their turn, vocational students have chosen more courses aiming at wider combinations of academic and vocational studies (two vocational study lines or two qualifications than academic students). (Mäkinen et al., 1997)

Students' willingness to make use of their increased range of options seems to indicate that there is a demand for student choice among them. According to comparisons of students' background, student choice does not seem to have increased inequality. (Mäkinen et al., 1997) Drop-out rates are a little lower in the experimental units than in the educational system in general (Numminen et al., 1997).

Comparisons of the Norwegian Reform -94 and the Finnish Experimental Reform of Upper Secondary Education as Representatives of the Strategy of Mutual Enrichment

A comparison of the Norwegian Reform -94 and the Finnish experimental reform of upper secondary education seems to suggest that they do not follow a uniform strategy of mutual enrichment. If networking between institutions and/or enterprises is taken as the core method enabling enrichment between vocational and academic tracks, the Norwegian enrichment strategy emphasizes networking with working life and the effects of a widespread system of combined schools. By contrast, the Finnish experimental reform of upper secondary education emphasizes networking between vocational and academic institutions and improved access to higher education. Both reform measures had the aim of introducing new concepts of knowledge and adopting individual-centred approaches to learning. It seems that Reform -94 has led to more thoroughgoing changes in contents and teaching/learning methods. In the Finnish experiment the renewal of the contents of qualifications depends largely on the choices made by the students. As cooperation has matured, the importance of renewing teaching/learning methods has become more obvious and there has been more room for emphasising this side of the

reform. The parallel reform of vocational core curricula has led to a reorganization and renewal of vocational curricula. The number of separate vocational qualifications offered has been reduced in both educational systems.

Both Reform -94 and the Finnish experiment have introduced modular curricula and articulated the two pathways more flexibly than in the earlier systems. They have presupposed active teacher involvement as well as provided in-service training to support this involvement. Central administration has developed in opposite directions in the two countries. In Norway central control has increased while in Finland it has been relaxed. As for the contextual factors determining the progress of the reforms, the distinct economic circumstances under which the Norwegian reform and the Finnish experiment have taken place have influenced their progress. The recession of the early 1990s led to cutbacks in the financial support given to the Finnish experiment, while the Norwegian reform has been well supported. The financial circumstances have been reflected also in the extent of research done on the two projects. The more favourable employment situation in Norway has led to an increase in the number of apprenticeship places, at the same time as economic circumstances have allowed the Norwegian state to increase the subsidies paid to enterprises accepting students. The Norwegian Reform -94 has also gained greater political acceptance than the Finnish experiment.

Reflections on Comments From Other Partners

In this section the Norwegian and Finnish partners reflect on the discussions that have arisen and the comments that have been made during the project on the Norwegian and Finnish reforms. Both partners concentrate on those topics which they have found most important.

Reflections From the Norwegian Viewpoint

The Norwegian Reform -94 and the Finnish experimental reform of the upper secondary education system have been discussed as representing the strategy of mutual enrichment. This strategy is one of the four ideal types that have been defined by the project as tools for considering the possibilities of developing parity of esteem between vocational and academic tracks.

Early in the process, the Finnish experiment and the Norwegian Reform -94 were considered good examples of the strategy of mutual enrichment. As the work of the project progressed, project partners seem to have reconsidered or modified this view somewhat. Most comments by the other partners on our description of the reforms in Finland and Norway hold that Reform -94 seems to, rather, exemplify the strategy of unification, whereas the Finnish experiment does correspond very well with the strategy of mutual enrichment. According to David Raffe and Michael Young's definition of the four strategies, it is characteristic of the mutual enrichment strategy that the two educational tracks maintain their separate distinctive quality and identity at the same time as they are coming closer to each other and influencing each other in positive ways. One of the positive effects of this development is that students may draw on both tracks and to some extent switch from one to the other, making it possible to acquire double qualifications.

In spite of such arguments claiming an unification effect, we still wish to emphasize some dimensions of the Reform -94 and hold it as an example of mutual enrichment. We have four particular reasons. 1) Both the vocational and the academic track have their own study programmes and curricula, with separate examinations, even if there is a considerable amount of common required reading in subjects like Norwegian, English, social studies, recent history, mathematics and natural sciences. 2) The two tracks are organized in separate classes/groups with separate time schedules and teachers. In organization as well as in content, they have their own distinctive quality and identity, even when both are delivered at the same combined school. 3) Academic education is school-based whereas vocational education has developed into a combined system where basic vocational training is delivered at school and specialised training is obtained through apprenticeships in business or industry (the 2+ model).
4) The mutual enrichment of vocational and academic education takes place when students and teachers from both tracks mingle on a daily basis, talk about and discuss questions of mutual relevance and when teachers cooperate in planning and carrying out their teaching of both categories of students together as in the case of problem-oriented project work.

To gain an accurate picture of Reform -94 it is important to consider the underlying intentions that formed the basis for the introduction of the reform. First, upper secondary education is for everyone - a statutory right for all 16- to 19-year-olds. This requires good planning and organisation, not to mention pedagogical differentiation. Second, there is a much

stronger element of theoretical study in vocational education since the reform. Some of the reasoning behind this is, naturally, a response to the growing importance of theory and theoretical understanding in our society today and, furthermore, to the fact that today's workforce must be prepared for readjustment and retraining in the course of their working careers. We consider that a broad element of general education in the upper secondary education system will provide a solid foundation for successful future development and change, and also contribute to enhancing the status of vocational education.

Obviously, this new upper secondary education, which is for everyone, and which aims at building a foundation for future readjustment and change, will require a transformation in the way teachers think and teach. It is therefore an important element of the Norwegian reform to provide in-service training to all teachers. This in-service training emphasizes new teaching approaches and methods, such as problem-oriented project work, new qualitative aspects of assessment and improved cooperation between teachers, students and schools. Such changes in pedagogical practice are necessary for the successful implementation of the reform. These new ways of thinking are now reflected in new plans for teacher education and training. We believe that a new concept of teaching practice, acquired during initial teacher training and laying more stress on professionalism, is the most important precondition of an improved upper secondary education both on the vocational and the academic tracks.

Reflections From the Finnish Viewpoint

The Post-16 Strategies project has discussed the usefulness of the concept of mutual enrichment from two points of view. Firstly there is the question whether it makes sense to separate it, as a concept, from the linkages strategy or whether it should, rather, be embedded into it as a subtype. Secondly, it has been asked whether the concept of mutual enrichment is useful in describing the Norwegian and Finnish reform attempts. These questions are related to a third one about the best way of describing reforms, about how to pay proper attention to their different dimensions. The features that specific reform attempts emphasize are related to the traditions that have produced them. Furthermore, there are differences not only between educational system traditions but also between the viewpoints from which these differences between traditions are discussed in the first place. At the closing stage of the Post-16 Strategies project it may still be fruitful to take up two questions. Firstly, why was the concept of the

mutual enrichment strategy problematised towards the end of the project? Secondly, why have the representatives of both the countries analysing school reforms under the heading of mutual enrichment been willing to separate the mutual enrichment from the linkages strategy? In other words: which dimensions of the reform do not receive sufficient attention when discussed in terms of the other strategies? These questions stem from the view that knowing is situational and process-oriented in nature, connected to individuals who ask questions that are personally relevant to them.

The concept of mutual enrichment was problematised in the course of the project because of how the analysis developed and not only because of the differences between specific reforms. In the preliminary version, as it was presented in the beginning of the project, the concept of mutual enrichment represented a compact discussion of curricular elements (line-based subject matter division vs. modularization) and structural features (separation vs. unification of academic and vocational tracks) as interrelated factors, one presupposing the other (see Mäkinen & Volanen, 1996, 18). During the Post-16 Strategies project the analysis has shifted towards an emphasis on different dimensions of reforms. This may have also involved a shift from thinking about the dimensions as interrelated towards thinking about them as separate (autonomous) wholes. This is a methodological problem and choice, and it would be difficult if not impossible to analyse the differences between the reforms any further in terms of the interrelation of different dimensions in each system.

Making some dimensions and features of the reforms visible justifies grouping the Norwegian and Finnish reforms together and separately from linkages and unification reforms. One difference in comparison with the reforms discussed as representing the linkages strategy (England and France) is that Norwegian and Finnish educational systems are small-scale. This may also to some extent explain the differences in the emphases put on various features of the reforms. The qualification routes for vocational and academic students introduced by Reform -94 and the Finnish experimental reform of upper secondary education are not mutually exclusive. What distinguishes them from the reforms discussed under the strategy of unification (Sweden and Scotland) is an emphasis on pedagogic changes brought along with structural changes.

As for the Finnish upper secondary experiment alone, the most important critical questions that emerged during the Post-16 Strategies project about the effects of the experiment have concerned educational equality: what will happen to educational equality in a system which allows more

differentiation in students' study programmes? Answering this question depends on how educational equality is understood, that is, on which features of the educational system and the reform are emphasised as a means for reaching equality. For example, should more students be offered more of the same contents, provided with equal qualification opportunities or given access to equal further education opportunities? The perception of a threat lurking in the differentiation of study programmes stems from the view that now when students have more opportunities for making wrong choices, they might in the end come to exclude themselves from further education. Such a development would sharpen the differentiation between academic and vocational tracks. In the Finnish educational system student guidance serves as a counterbalancing element. It should make the educational system transparent and give students an understanding of what kind of pathway they are building through their choices. The special attention paid to student guidance in the experiment has included the provision of in-service education to teachers and tutor education to students and an emphasis that all teachers have the role of guidance counsellors. While there may be a threat to educational equality, the broadened further education possibilities opening to vocational education students through experimental measures and the opportunity to choose across tracks do simultaneously promote both parity of esteem between vocational and academic tracks and educational equality. Still, it must be remembered that on the whole, the decentralization of Finnish educational system also means that a greater share of the responsibility for preventing social exclusion will lie on the shoulders of local decision-makers.

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Linkage Approaches to Post-16 Education Reform: The Case of the English and French Systems

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Introduction

The Interim Report of the Leonardo da Vinci Post-16 Strategies project (Lasonen, 1996) focused on four types of strategy which aim to promote parity of esteem between general and vocational education in different European systems of post-compulsory education. The strategies were described as (i) vocational enhancement, (ii) mutual enrichment, (iii) linkages and (iv) unification. Although the report grouped each of the eight countries in the partnership into one of the four categories, in reality each national system demonstrates features of more than one strategy. For analytical purposes, the four strategies are best regarded as ideal types. The analytical challenge is not so much to try and demonstrate that each national system deploys one of the four strategies, or even just to compare the eight national systems, useful though this would be. The challenge is to assess how the different strategies relate to each other and whether a common direction can be identified among the countries in the partnership.

This paper has two aims. First, it is a commentary on the suggestion in the interim report on Post-16 strategies that French and English reforms could be classified as linkage strategies. Second, it aims to explore further the idea of a linkage strategy in post-compulsory education and training

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through a comparison of how recent reforms in England and France have attempted to raise the status of vocational education. On account of their particular histories, the problem of the status of vocational education appears to be particularly acute in France and England, though with different consequences in each case. The term "linkages" refers to connections between different parts of the education and training system[1] that are developed in order to promote parity of esteem between vocational and general education. It is clear from previous analysis in the Leonardo Project that certification has been the main means of creating linkages in both England and France (Raffe, 1996). The following analysis, therefore, will focus largely on the relationship between academic and vocational qualifications in initial post-compulsory education.

The idea of linkage is based on two assumptions. The first is that academic and vocational qualifications, which have been historically separated in a number of ways (for example by differences of title, purpose, status, content, assessment, learning methodology, progression routes, location of learning) need to be linked in some way in order to promote participation and the flexibility of student pathways and to improve attainment levels. Both countries see linkages as an answer though in France linkages have also been more directly part of a response to the high rate of youth unemployment.

The second assumption of the linkage strategy is that the qualifications or qualification routes associated with academic and vocational learning should remain distinct and that it is not appropriate that they are fully integrated or unified. This assumption has deep roots in both countries. In England it reflects a widely held view that post-compulsory general education is "academic" and for a minority only. It follows that any attempt to overcome academic/vocational divisions is seen by many as lowering the standards of the academic route. In France, opposition to a unified system is more overtly political. The idea of a unified system is still associated with the Marxist Henri Wallon, who was Chairman of the 1945 Reform Commission.

In the final chapter of the Interim Report it was suggested that a linkage approach was an appropriate way of raising the esteem of vocational education in a mixed system (as in England). It also appeared to be a way of promoting change in large centralised systems such as France (Raffe,

[1] For example, connections between general and vocational education and between full-time and work-based learning.

1996). Moreover, it was also put forward that the idea of linkage emphasised the relationship between a number of different bridging mechanisms (for example, certification, credit transfer and common curriculum elements). The analysis went on to suggest that France and England were examples of countries where linkage approaches to achieving parity of esteem have had a dominant role in recent reforms. A closer look at the two systems, however, seems to imply that, though this is the direction that the English system is moving in, in the French case it is not so clear. An analysis of both systems and the current reforms in each country suggest that though both have been responding to similar historical developments, such as a rise in full-time participation and the need to respond to increasingly flexible labour markets, the specific developments that have triggered off linkage strategies have been different. Whereas in England they arise from the lack of capacity of schools to cope with the diversity of attainment levels of those now staying on after 16, in France the pressures were more economic and stemmed also from the unintended consequences of earlier changes[2]. It is not surprising therefore that the linkage strategies adopted in the two countries have been very different.

In taking further an exploration of different types of post-16 strategy found in these two countries, this paper attempts to address four key questions:

1. Are there particular conditions or contexts which encourage linkage strategies to be the preferred or the dominant national strategy?
2. How far should developments in broad vocational qualifications - notably GNVQs in England and the *Baccalaureat professionnel* in France - be seen as the main focus of linkage strategies?
3. How accurately does the concept of "linkage" describe the broad features of current reform strategies in England and France?
4. Do linkage approaches represent a stable and sustainable strategy leading to bridges between separate systems of general and vocational education? Or do they represent an unstable or transitional strategy which is likely to be increasingly pulled by more fundamental changes towards a more divided or unified system?

[2] The launching of the *Baccalaureat professionnel* can be seen in part as necessitated by the evolution of the general and particularly of the technological routes.

Linkage Strategies in Context

Linkage strategies can be seen as a response to an apparent tension in modern education and training systems. On the one hand, there has been a significant growth of full-time participation in post-compulsory education in most European countries over the past decade or so. On the other hand, the growth of full-time participation and the increasing tendency for work-based training to be associated with only those with low attainment levels has called into question the status of vocational education. Two decades ago, when most young people made a rapid transition from school to work, the status of vocational education was derived mainly from its role in producing qualified workers and separating students on vocational programmes from the majority of school leavers who got unskilled jobs without any qualifications. The status of vocational education was further supported by its clear separation from general or academic education. Vocational programmes were usually part-time, work-based and relatively job-specific. In the present period when the vast majority of young people continue in full-time post-compulsory education and when programmes geared to specific workplace skills are disappearing, the differentiation of the status and content of vocational education is becoming attenuated. At the same time there is a growing uncertainty as to an appropriate curriculum for the large numbers now staying on as full-time students.

The two countries have both experienced this phenomenon but have responded to it in different ways. The English system experienced rapid increases in full-time participation in the late 1980s and early 1990s. The challenge has been how to accommodate low-achieving students who could not participate in a highly selective academic track but who, at the same time, had rejected the work-based alternative as represented by the Youth Training programme, which had gained a reputation for low-quality training and poor outcomes.

In the era of rising levels of full-time participation and the aim (agreed on by the French Government in 1992) that 80 per cent of the entire age group should reach baccalaureate level in five years, the French system faced similar challenges. First, there had to be recognition of the greater diversity of students entering post-compulsory education, and secondly there needed to be an attempt to reduce the effects of the established hierarchies of the different baccalaureates. At the top of the hierarchy is the mathematics variant of the General Baccalaureate which is highly selective

and attracts most of the most able students. The elite status of the *Baccalaureat generale* served to devalue the other routes. The third aim was that all students leaving school should have the opportunity to take up vocational training (Levrat & Lazar, 1996). The general trend in France was to delegate more responsibilities to the local level. However, this was contentious as it was seen by some as reflecting a short-term emphasis on economic priorities as well as giving too much power to enterprises.

This brings us to a second contextual factor - the prestige of the general or academic route in both countries. Linkage strategies appear to be a response to the fact that in the process of increasing full-time participation there has been a drift of students towards the high-status academic route. The growth of the general or academic route took place in the early phase of increases in participation - the early 1980s in France and the late 1980s in England. However, the later phase shows a plateauing of participation in the general routes and further growth in the vocational routes. An emerging priority in this context, therefore, has been to try and make vocational education more attractive by raising its demands on students and asserting its formal equivalence with academic or general education. We will see later that parity of esteem can be desired either to promote the role of full-time vocational qualifications as a progression route to higher education (the English approach) or to promote a broader and more attractive basis for the transition from school to work (the French approach). One feature of a linkage strategy that made it acceptable in France was that through the overall baccalaureate system it was strongly based on national standards.

A third contextual feature favouring linkage strategies is the size of the education and training systems and the role of the work-based route. Large-scale systems - such as those in England and France - may experience more pressure to preserve the identity of distinctive qualifications. With rising full-time participation, the inevitable growth of a full-time vocational education and the subsequent blurring of boundaries between general education and vocational training, clarity becomes a high priority in large-scale systems. Small-scale systems, such as those in Scotland and Sweden, on the other hand, may find it easier to pursue more integrationist or unifying approaches (Raffe, 1996).

The fourth contextual factor is the role of employers and labour markets. Vocational enhancement strategies may be a preferred approach where there is a long-standing and structural distinction between general and vocational education, where the latter is valued by employers and where there is a desire, shared by employers, to broaden the basis of

vocational education curricula (Bremer, 1996). Where the role of the labour market is either weaker or negative, as in the English case, strategies linking academic and vocational qualifications may be used to bring vocational education into closer proximity with the academic route. In effect, linkage strategies are an attempt to substitute for the lack of employer involvement in supporting and enhancing vocational qualifications. In France the development of vocational education appears to have been different from that in both Germany and England. It is school-based and contains a substantial proportion of general education as well as stressing the relationship between school and working life.

The overall context for linkage strategies, therefore, is a mixture of a number of factors - rising full-time participation and the emergence of what have been termed school-based systems, the rapid growth of general education (or the academic track) and the character of systems (e.g., the absence of a dominant work-based mode and its sheer size) which reduces the possibility of other strategies playing a leading role.

So far, the analysis may serve to explain why linkage strategies are more likely to be pursued in some countries rather than in others. However, this does not necessarily mean, as stated earlier, that these countries - in this case England and France - are pursuing similar post-16 education strategies. An investigation of each national context suggests that two other factors complicate the picture. First, there may be different types of linkage strategy in each national context. Second, the exact type of linkage strategy may be related to the way other post-16 education reform strategies are being deployed - for example, whether unification strategies or vocational enhancement strategies are also being used in parallel with a linkage approach. The character of the strategies being pursued in England and France cannot be understood simply by characterising them as "linkage-based". Although linkage may be the dominant strategy in each country, national reforms are better understood in terms of strategic mixes in which more than one of the four strategies identified in the project are drawn on.

The *Baccalaureat Professionnel* and GNVQs: Case Studies of Linkage Strategies in England and France

A major focus of linkage strategies in both countries has been certification. The role of certification in linkage strategies in the two countries can be analysed by comparing the *Baccalaureat professionnel* and GNVQs. Despite the usual assumptions about the differences between the educational systems of France and England, similarities as well as differences are evident in such a comparison. There are, however, three main differences. The first is historical. GNVQs are the product of a rationalisation and extension of earlier general vocational qualifications which were not widely available in schools[3]. The *Baccalaureat professionnel*, on the other hand, was introduced to complement the earlier introduction of the *Baccalaureat technologique*. An applied technological qualification that also gave access to higher education was therefore already available in France before the *Baccalaureat professionnel* was introduced. The second difference is quantitative; France expects to have over 80 per cent of the age group at baccalaureate level by the year 2000 whereas in England the target is 60 per cent and the current level is still under 50 per cent. The third difference concerns certification structure. The decision to incorporate the *Baccalaureat professionnel* as a vocational route within the overall baccalaureate framework contrasts with the reluctance of the Government in England to support the idea that GNVQs should become "vocational A levels". This is not only a question of name but of curriculum. The general education component of GNVQs bears no relation to A levels. It is limited to key skills which are largely designed to compensate for the low pre-16 achievements in mathematics and English of many GNVQ students. General education in the *Baccalaureat professionnel*, on the other hand, is based on a curriculum common to all baccalaureates.

Extending credit transfer and a common modular structure to GNVQs and A levels has been rejected in the recent Dearing Review on the grounds that such initiatives might damage the A-level "gold standard" (Dearing, 1996). Similar fears have been raised in France about modularising the

[3] GNVQs replaced the DVE (Diploma in Vocational Education) and the BTEC awards at First and National levels.

baccalaureates. However, the fear that the *Baccalaureat professionnel* might, by association, lower the status of the *Baccalaureat generale* has not arisen, partly because a hidden hierarchy between the different baccalaureates is recognised and secondly because the two qualifications are widely accepted as having quite distinct roles. This difference between the *Baccalaureat professionnel* and GNVQs may, in part, reflect the fact that while different baccalaureates are largely offered in different institutions, most schools and colleges offer both A levels and GNVQs. Table 5 below summarises the main differences and similarities between the two qualifications.

Table 5.
The Main Differences and Similarities Between GNVQs and Baccalaureat Professionnel

	GNVQ (Advanced) England	***Baccalaureat professionnel* (France)**
Origins	Educational response to increased participation	Employer demands for broader knowledge and skills
Participation	Aiming for 50% of post-16 full-time students who are not involved in academic or occupationally-focused routes	Aiming for the minority of full-time post-16 students who do not take a *Baccalaureat generale* or a *Baccalaureat tech* and also for those in workplaces
Position in relation to other routes	A middle route or track between academic (A levels) and occupationally specific NVQs	Third and smallest grouping in three route baccalaureate structure that includes the General and Technological Baccalaureates
Content	Core skills and broad vocational knowledge in one of fifteen areas	General education and specialised vocational knowledge and skills in one of a wide range of areas
Organisation	Education-based in schools and colleges	Education-based and work-based

Table continues

Table 5. (continued)
The Main Differences and Similarities between GNVQs and Baccalaureat Professionnel

	GNVQ (Advanced) England	***Baccalaureat professionnel* (France)**
Progression and improving status of vocational education	Seen largely as an alternative to A levels as a route to higher education	Seen as a means of improving chances of students gaining employment
Concept of parity	Formal equivalence between academic and vocational qualifications at each level, and for university entry	Parity between the school and the workplace as learning environments and parity of esteem through the title of Baccalaureate
Main linkage strategy	Linkage achieved through the opportunity for combining GNVQs with A levels (and, in theory NVQs) in a student's programme	Linkages to other baccalaureates achieved through common content. Practical linkages also emphasised between education and workplaces and through common learning methodologies

The next section develops the points in the diagram in more detail.

Origins and Design

The *Baccalaureat professionnel* in France, while meeting employer demands for broader knowledge and skills and giving students the possibility of access to university, was principally introduced to provide a higher-level qualification within a wide range of occupational fields. It was designed, in close co-ordination with the relevant groups of employers, to include the skills and knowledge needed to facilitate entry to jobs. There are 35 different types of *Baccalaureat professionnel* corresponding to different occupational fields. 90 per cent of students with the Vocational Baccalaureate find a job linked to their training (Levrat, 1996).

GNVQs were introduced in 1992 in response to the rapid increase in full-time participation at a time when the Conservative Government wanted to restrict levels of participation in A levels (the general education

route) in order, they claimed, to avoid diluting academic standards (Spours, 1995). GNVQs are organised in 15 broad vocational fields. They were designed so that they could be offered by schools as well as by colleges and they do not directly prepare young people for jobs. Furthermore, they do not require students to have experience of workplaces. Their vocational role is to orient young people towards work in general and to be a basis for them to take more job-specific qualifications (NVQs). In practice very few students take NVQs either after or at the same time as GNVQs. The clearest achievements of Advanced GNVQs for those students who complete the qualification has been that they provide an alternative progression route to higher education.

Linking With Other Qualifications and Routes

The different origins of GNVQs and the *Baccalaureat professionnel* are also reflected in differences in their relationship to other qualifications. In the case of GNVQs, the focus has been on the formation of broad vocational qualifications which are seen to operate as a middle track between academic A levels and occupationally-specific NVQs. Previous to this, there was no formalised middle route as such but a variety of broad vocational qualifications, such as the BTEC National Diploma, which provided opportunities for progression both to higher education and to work. In a sense, therefore, GNVQs were not new. They are, however, less vocationally focused than the qualifications they were designed to replace.

In their role as a middle route, GNVQs were designed to be multi-functional - as an alternative means of access to higher education and as a bridge to more focused vocational training. In the five years since they were launched, GNVQs have become a low-status form of general education (Institute of Education, Further Education Unit and Nuffield Foundation, 1994). Moreover, the demand for the GNVQs did not come from employers; it came from the teaching profession who were looking for a way of coping with the increasing numbers of students staying on for post-compulsory education who would be unlikely to succeed at A levels.

The hoped-for link between GNVQs and NVQs has not so far been realised. This is partly because the aspiration of many GNVQ students has been to get into university. It is also because the continuing failure of employers either to value vocational qualifications in their recruitment practices or to offer NVQs to those they do employ, as well as the lack of opportunities for young people to move from school into the labour market. This absence of links with working life has also been compounded by the

design of GNVQs and the policy priority that they should be able to be implemented in school sixth forms with staff whose main experience is likely to have been limited to teaching A levels. Unlike the vocational qualifications that they were designed to replace, GNVQs do not make work experience a requirement, or stress the need for special relationships with employers or the need for vocationally trained staff.

The effect of this locational linkage of GNVQs as a middle route has subjected them to academic drift and to pressures that they should take on features of A levels in order to maximise parity. The latest manifestation of this is the decision to increase the amount of external assessment in GNVQs and to emphasise the linguistic and mathematical content of key skills[4].

The *Baccalaureat professionnel* appears to have a very different location and linking role. It does not occupy a role as middle route between academic and vocational qualifications. It aims to combine general and vocational education and provide a link between education/training and work. It achieves this function by being a third type of baccalaureate alongside the General and the Technological Baccalaureates. It was introduced in part in response to the academic drift of the *Baccalaureat technologique*. Originally this was a "dual-function" qualification, and included work experience through which students could develop skills to be effective in very diverse work contexts. However, as it developed, the role of the *Baccalaureat technologique* as a route to higher education became increasingly dominant. The main aim of the *Baccalaureat professionnel*, therefore, was to enhance the status of qualified workers (Levrat & Lazar, 1996). It was designed in response to employer demands for young people with broader-based skills and knowledge. Through its vocational orientation, it has encouraged links with employers and opportunities for work experience for young people. The question that remains is the extent to which it will begin to reflect an academic drift similar to that affecting the *Baccalaureat technologique*.

Linkages Through Content and Assessment

The differences in the approach to content in GNVQ Advanced and the *Baccalaureat professionnel* point to two very different concepts of parity of esteem in the two qualifications. GNVQs were designed to be distinctive

[4] Core skills had originally had a more explicitly applied focus with the emphasis on the "application of number" and "communications skills" in workplace contexts.

and different from A levels both in their content and assessment. Yet at the same time, it was claimed that they are to be regarded as being equal. It was hoped that the distinctiveness of GNVQs would make them attractive to employers as well as motivating for students. The former has not been achieved. GNVQs have not proved attractive to employers because they are regarded as either insufficiently vocational or an indication of low achievements in general education. They have been motivating to some students but their bureaucratic assessment burdens have resulted in only about half those starting GNVQs successfully completing the course.

The latest developments in GNVQ assessment towards more external testing represent an effort to mimic the "rigour" of A-level assessment without any equivalent common access to knowledge content or le rning methodologies. The Government has attempted to achieve parity of esteem by simply making the tests harder. It has rejected other approaches to parity - more sharing of a curriculum in common with A levels as in the case of the equivalent baccalaureates or the enhancement of specialist vocational knowledge as is found in Germany. Both would, of course, have led to a blurring of the three tracks which would have been against the government policy of maintaining both divisions and distinctiveness.

The *Baccalaureat professionnel* has followed a very different logic. It is explicitly designed to have similarities with the other baccalaureates and shares the same title. More specifically, it shares with the other routes a similar content though not necessarily in the same proportions. Maths, science and foreign languages are taught as separate subjects to clearly specified standards and by teachers who specialise in those areas (Green, 1997). This provides what Green refers to as access to the *"culture generale"* and is one of the sources of parity of esteem between the baccalaureates. The assessment of the *Baccalaureat professionnel* is both internal and external, though parity of esteem does not seem to rest as much upon assessment methodology as in the English case. The main source of parity appears to be the level of vocational specialisation in the *Baccalaureat professionnel* and the linkages with employers which connect the qualifications directly to the skilled labour market. All students who are in vocational *lycées* preparing for the Vocational Baccalaureate have compulsory 16-22 week training periods in an enterprise. Parity of esteem in the *Baccalaureat professionnel*, therefore, is secured through the combination of "common properties" between the baccalaureates based on general education and through "equal attractiveness" based on very different but sought-after destinations - university or the skilled labour market.

Progression

The major claim to parity of GNVQ Advanced with A levels is through its role in providing progression to higher education for students who do not reach attainment levels high enough to again entry to the A-level route. Roughly the same proportion of those obtaining a GNVQ Advanced[5] proceed to university as of those graduating from A-Level courses. However, it is an alternative, not an equal route to higher education. The vast majority of GNVQ Advanced students who are accepted for degree courses in higher education go the "new" universities that were colleges or polytechnics until 1994. Furthermore, GNVQ students tend to gain places on the more applied courses which represent a more direct continuity with their GNVQ studies. GNVQs on their own are rarely accepted by higher education admissions tutors as a means of entry, at least in the older universities. It is increasingly common for other academic qualifications to be demanded such as grades A-C at GCSE in English and Maths and/or an A Level. It follows that considerable pressure is generated for GNVQ students to undertake mixed programmes.

GNVQs do not offer a clear route into the labour market because their content is generic rather than specific. There is a significant absence both of the vocational associated in France in the *Baccalaureat technologique*, and of the relationship between vocational qualifications and skilled jobs that is offered by the *Baccalaureat professionnel*[6].

A recent attempt to upgrade the work-based route, referred to as Modern Apprenticeships, uses a mixture of GNVQs and NVQs, but this is not really regarded as satisfactory by employers. The qualifications mix on these programmes is voluntary and varies widely from employer to employer. Furthermore, GNVQs have not been designed as a part-time qualification outside schools and colleges. The *Baccalaureat professionnel*, on the other hand, is highly vocationally specialised as well as having substantial general education content. It is used not only as a means of progression from school-based education into work but also as a means of qualification within work.

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[5] This is not numerically large because of low successful completion rates.

[6] Both these roles, the Government would claim, are fulfilled by NVQs.

The Concept of Parity of Esteem

The two qualifications reflect different notions of parity of esteem and the different paradoxes of their respective national systems. GNVQs seek formal equivalence with A levels but do this in a vaguely formal sense with little justification in terms of the type of student involved, the achieved outcomes or progression possibilities. GNVQs would appear to reflect aspects of the English national culture - it makes claims to equality and "classlessness" but in fact remains deeply unequal.

The baccalaureate system suggests that the French approach is more transparent while being, at the same time, openly more hierarchical. Despite having the same title the *Baccalaureat professionnel* is not considered equal to the other routes and does not claim to be. There is no claim that it provides a genuine alternative route to higher education, though the option is not ruled out and there is little evidence of lateral movement between the different baccalaureates. Nevertheless, the *Baccalaureat professionnel* shares more features with the other two baccalaureates than GNVQs do with A levels. These features are, however, used to promote its vocational rather than its general educational role. However, questions about the parity issue remain in the French system. The pedagogical approach in the General and Technological Baccalaureates remains formal but the development of the study of cognitive processes in vocational education and training and the attempts to introduce project-based work into all the baccalaureates can be seen as endeavours to promote parity of esteem through common and innovative approaches to teaching and learning (Lazar, 1996).

Linkage Strategies in England and France Compared

This chapter has argued that the different national contexts in France and England have led to different types of linkage strategies despite the fact that the two countries are responding to shared problems arising from changes in participation in post-compulsory education and in working life. A brief examination of how different linkage strategies are combined can be undertaken by focusing on seven criteria applied not only to the GNVQ and the *Baccalaureat professionnel* but to the system of post-compulsory education as a whole. This includes its certification structure,

combinations of study, the possibilities of movement between routes, the organisation and delivery of programmes, forms of equivalence and systems of recognition, pedagogic methods and approaches to progression. Table 6 below represents a summary of contrasts between the two approaches to linkage.

Table 6.
The English and French Approaches to Linkage

Linkages feature	England	France
Certification	Additional certification to overarch existing qualifications	Different routes and certificates within the same overall structure and title
Combinations of academic and vocational study	Encouragement to enhance vocational qualifications with contents from academic qualifications (A levels and GCSEs)	General and vocational education offered within the same qualification
Student movement between routes	Encouragement to students with lower attainment to opt for GNVQs rather than A levels to preserve the gold standard	Encouragement to students to take baccalaureates other than the General and attempts to minimise the traditional hierarchy
Organisation	A school-based qualification with few linkages with working life	Emphasis on linkages between schools and workplaces
Equivalences and recognition	Formal equivalences based on NVQ levels to encourage combinations of study	Aim for equal attractiveness and attempt to reduce hierarchies between different types of baccalaureate

Table continues

Table 6. (continued)
The English and French Approaches to Linkage

Linkages feature	England	France
Pedagogic innovations	Key skills built into GNVQs are offered as an optional addition to A levels	Attempts to introduce project learning methods in the different types of baccalaureate
Progression	Emphasis on education-based progression to HE	The *Baccalaureat professionnel* gives a formal right to enter higher education but real focus of the qualification is on the transition to working life

The English approach to post-16 education reform, expressed most recently in the Dearing Review (Spours & Young, 1996), could be characterised as a one-dimensional[7] and weak variant of a linkage approach. The main linking mechanism is confined to the opportunity for mixing full-time broad vocational and academic courses - notably for GNVQ Advanced students to take an A level or GCSE subjects. There is also a proposal in the Dearing Review that there be additional overarching certification offered, in addition to A levels or GNVQ Advanced, to encourage this linking and breadth of study. The main purpose of the linkages strategy within the current policy framework is not to promote parity of esteem of vocational qualifications but to preserve the gold standard of A levels by developing an alternative progression route to higher education. However, combining studies from different qualifications is voluntary. Students choose whether they want to take additional courses and only 15 per cent of GNVQ Advanced students do take an A level (IOE et al., 1994). Very few students on an A-level programme take a part of a GNVQ as an additional course. Any commonality between A levels and GNVQs that is established through

[7]It is limited to the formal equivalence of qualifications.

the levels of similar "blocks" of units appears to be undermined by the distinctiveness of their content, styles of learning and different approaches to assessment. Most GNVQ Advanced students take just the twelve compulsory GNVQ units (the equivalent of two A levels). Recent evaluation studies have suggested that many GNVQ students are too busy with the burdens of assessment recording to have time for an A level. Furthermore, the different approaches to learning and assessment in the different qualifications may also put students off taking combinations. Nevertheless, the recent Dearing Review has proposed that GNVQ units be available in six-unit and possibly three-unit blocks (equivalent in size to an A level) so that at least it will be possible for A-level students to take additional blocks of GNVQ units.

Theoretically, there is a linkage between GNVQs and NVQs though this has not be substantially realised in practice. The reason, as indicated before, is that most progression from GNVQs is educational (i.e., within GNVQ levels or from GNVQs to higher education) rather than work-based, and work-based training programmes such as YT have not placed a high priority on qualification rates. This may change, however, with the development of the new Modern Apprenticeship which places priority on train-ees qualifying at Level 3. However, whether or not a trainee takes advan-tage of the new links between vocational and academic qualifications remains up to them and their employers, and most trainees undertake only NVQs and the core skills component of GNVQs. Other forms of linkage - common programmes for those on academic and vocational qualifications and closer links between education and workplaces - take place in some institutions, but are not the result of an explicit policy priority. The main aim of the current linkage approach in England is to develop links between academic and vocational courses offered in the same institutions rather than providing links across different educational institutions or between education and workplaces.

The English system has been described as a *strong track and weak framework* model (Spours &Young, 1996). All three tracks - A levels, GNVQs and NVQs - are within the National Qualifications Framework but there is little real articulation across the tracks because of their dominance relative to the criteria of the national framework. This is most notable in the different philosophies of knowledge and skill associated with each track.

In France the main aim of linkage strategies has been to bring together the world of education and the world of work, as in the *Baccalaureat professionnel* in which both the school and the workplace are recognised as

places for learning. The aim of reducing the differences of status between the various baccalaureates is not so much to establish formal parity between them but to make each baccalaureate more attractive. In this sense the French linkage strategy focuses more on the relationship between general education, vocational education, vocational training and the world of work and less on the relationship between academic and vocational qualifications. There is, in fact, little evidence of linkages expressed as flexible pathways and opportunities for transfer and mutual recognition between the different baccalaureates (Levrat & Lazar, 1996). Moreover, "transferable skills or key competencies have no real weight vis-à-vis the subject-based school system" (Levrat & Lazar, 1996). Yet, at the same time, the use of common certification and a core of general education provides a degree of commonality between general and vocational education in the French system that is not found in England.

Linkage strategies assume that qualifications systems are first and foremost systems of tracks. Any attempts to reform relationships between the tracks are designed to promote skill development, participation, levels of attainment and flexible movement between the tracks. We have described England as having a weak linkage strategy based on distinctive tracks and a voluntary approach to cross-track combinations of study. France, on the other hand, has developed a rather different type of linkage strategy for connecting general and vocational education. It arguably employs a much stronger linkage approach based on a variety of strategies - common properties between different baccalaureates, cross-institutional links between education and work-places and pedagogic innovation on different sites of learning. If the relationship between centre and locality can also be seen as linkage, then the emphasis on the decentralisation of what traditionally has been a highly centralised system is also part of a broad linkage strategy (Levrat, 1996).

At this point it is interesting to pose the question as to whether a strategy described as "strong linkages" is still a linkage strategy as such. It may be more useful not to try and associate national approaches to reform with one or other strategy but to see them as involving one or more of the four strategies. The French reform programme exhibits some elements of unification in its use of the concept of the baccalaureate to include over 80 per cent of each cohort. At the same time it retains track-based features in the implementation context which stresses the differences between the sites of learning and the types of baccalaureate. If the major aim of linkages is to promote flexibility of movement between tracks, then this does not ade-

quately describe the French reforms. They appear to embody features of unification and vocational enhancement more than they embody linkages between qualifications as such.

Linkages as an Unstable Strategy or a Complement to Other Strategies?

It can be argued that the English approach to linkages, as a means of bridging qualifications tracks, constitutes an unstable position between a track-based and a unified system. In other words, if the linkage strategy is not part of a longer-term move towards greater unification, regression to a fully tracked system is always likely. Current reforms suggest a slow move towards linking through the alignment of modules in different qualifications[8] and by having schools and colleges offering both academic and vocational qualifications. These developments are beginning to produce a demand for more common elements between the qualifications (e.g., core skills) and for ways of making the mixing of modules from the different qualifications easier. In other words, linking creates pressures for greater unification that the strategy itself cannot fulfil.

On the other hand, anxieties about whether students can be motivated to study and concerns about the dilution of the vocational element of GNVQs are also placing pressures on the qualifications system to retain aspects of the distinctiveness of the tracks. Moreover, the two weaknesses of GNVQs - that they are not sufficiently specialised for their vocational role, and that they lack the knowledge content that a student going on to higher education is likely to need - create contradictory demands for more distinct qualifications. In other words GNVQs are being pulled in opposite directions at the same time.

It is difficult to see the English approach to linkages having a long-term future. One possibility is that it could move in the direction of the French model. This has been advocated by a number of commentators. If such a development was to become government policy, not only would more common elements be a feature of both academic and vocational qualifica-

[8] A GNVQ consists of a minimum of 12 units, an A level six units and an AS three units.

tions, but a major enhancement strategy in relation to the vocational enhancement of qualifications would be necessary. A possible scenario would be the development of a common diploma system with a single title which would have both general educational and vocational variants. Within the stated aims of the new Labour Government, this is a possibility over a long period. First and foremost, the Government would have to persuade teachers, students and employers to give up seeing vocational programmes as primarily designed for those unable to cope with A levels.

The French approach, perhaps inadequately described as a strong linkage strategy, with the key features of a common title of certification, common elements and vocational specialisation linked to the needs of workplaces, appears to have greater in-built stability. The question may be how the baccalaureate system will evolve further in relation to two problems that it currently faces. These are first, how to include the 20 per cent of each cohort that is unlikely to attain a *Baccalaureat professionnel* and second, how to reverse the consequences of academic drift that are leaving the country short of people with specific skills.

Conclusions

Three conclusions emerge from this chapter. The first is that though the concept of linkage does highlight some features of the way in which England and France have attempted to raise the status of vocational education, a comparison of recent policies in the two countries shows more differences than similarities between them. Secondly, evidence from England and France point to the weaknesses of the concept of a linkage strategy. Whereas the English case suggests the instability of linkage strategies, which unless they are part of a broader and more long-term reform process will in all likelihood lead to a regress back to a divided system. A linkage strategy appears more successful in France. However, this reflects the fact that it has been part of a broader unifying strategy designed to include as wide a proportion of the cohort as possible within a baccalaureate framework. Finally, comparing developments in the two countries suggests that a linkage strategy, in the absence of a specific approach to enhancing vocational programmes, is unlikely to succeed in raising the status of vocational programmes. This needs both a policy to develop vocational specialisation and a strengthening of the general education component of vocational programmes. There is some evidence of both of these processes

in France within the *Baccalaureat professionnel* programmes, but not in England. The main consequence is that GNVQs remain little more than a second-chance route into lower-status higher education.

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The Strategy of a Unified System: Scotland and Sweden

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Introduction: The Strategy of a Unified System

The strategy of a unified system offers the most radical approach to parity of esteem. Whereas the strategies of mutual enrichment and linkages aim to build bridges between general and vocational tracks, the goal of unification is to abolish the tracks themselves and to redefine the terms in which inequalities of esteem are expressed. A unified system rejects the allocation of students and of curricula into separate tracks, and includes all students and all forms of learning within a single system. In this chapter we describe the reform of upper secondary education in Sweden, which introduced a unified system in 1994, and the Higher Still reform in Scotland which will introduce a unified system in 1999.

There are different possible models and concepts of unified system. All post-compulsory education systems differentiate among students and among curricula. The question then arises: when does such differentiation constitute tracking and when is it part of a unified system? Our answer to this question is to express unification as a continuum. At one end of this continuum we find educational systems based on tracking, in the middle of the continuum we find linked systems, and at the other end we find unified systems. But the differences between types of system are matters of degree: systems may, in other words, be more or less unified.

There are, moreover, different possible dimensions of unification. Table 7, based on the work of the Anglo-Scottish Unified Learning Project,

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distinguishes 11 such dimensions, although this list is somewhat tentative (Raffe et al., 1997). Each dimension can be represented in terms of the continuum from a tracked to a unified system, with linked systems as the intermediate point. To aid interpretation Table 7 shows the dimensions in four groups. These refer, respectively, to the content and processes of education, to the "system architecture" of certification, course structure and student pathways (including pathways to higher education), to delivery systems (local institutions, modes of participation and staffing) and to the arrangements for government and regulation. On each dimension a tracked system is characterised by the distinctiveness and separation of each track, whereas a unified system is more pluralist while showing greater consistency across different programmes of study. Further details of the variation along each dimension are summarised in Table 7.

Two additional cross-cutting dimensions are shown separately. They are not directly related to unification but may be important for understanding unifying strategies. The first is the number of tracks in a system: since the continuum of unification is primarily about the relationship between tracks, it is more complicated to analyse a system with three or more tracks; for example, a reform may unify tracks 1 and 2 but leave track 3 at least partly separate from the others (this, as we shall see, is the situation in the Scottish reform). The second is the scope of the system in respect of the age range and the percentage of the cohort that is included.

The three types of systems - tracked, linked and unified - correspond to the three strategies of vocational enhancement, linkages and unification respectively.[1] However, the conceptual framework of Table 7 suggests that there are different possible unifying strategies. They may differ according to:

- the position of the system at the start of the reform;
- how far along the continuum the strategy proposes to move;
- the dimensions of unification which are emphasised by the strategy; for example, some strategies may stress the unification of content and processes; others may emphasise a common system architecture and flexible student pathways; others may emphasise common arrangements for delivery, for example through an integrated upper secondary school; and
- the cross-cutting dimensions - for example, whether they unify across all tracks or just some tracks of a multi-track system, how broad is the age group that is covered, and what proportion of the cohort.

[1] In this analysis mutual enrichment is a variant of the linkages strategy which emphasises particular dimensions.

Table 7.
A Matrix of Unification: Types of System and Their Dimensions

	Tracked system	Linked system	Unified system
CONTENT AND PROCESS			
Purpose and ethos	Distinctive purposes and ethos in each track	Purposes and ethos overlap across tracks	Multiple purposes and pluralist ethos
Curriculum	Different content (subjects, areas of study)	Common elements across tracks	An integrated academic and vocational curriculum
Teaching/learning processes	Different learning processes in different tracks	Different learning processes but some common features	Variation in learning processes not tied to specific programmes
Assessment	Different assessment methodologies and grading systems	Different methodologies but with level and grade equivalences	Common framework of methodologies including a common grading system
SYSTEM ARCHITECTURE			
Certification	Different certification for each track	Certification frameworks link tracks, e.g., overarching diplomas, equivalences	A single system of certification
Course structure & pathways	Different course structures and insular progression pathways	Course structures allow transfer and combinations	Flexible entry points, credit accumulation, single progression ladder
Admission requirement (higher education)	Some tracks make HE studies impossible	Different types of admission for different tracks	All certificates give admission to HE
DELIVERY			
Local institutions	Different institutions for different tracks	Variable/overlapping relation of track to institution	One type of institution
Modes of participation	Tracks based on separate modes (academic/ full-time, vocational/ part-time)	Tracks partly based on mode	Single system covers different modes
Staff	Different staff for each track, with non-transferable qualifications	Variable/some overlap of staff	Common staff

Table continues

Table 7. (continued)
A Matrix of Unification: Types of System and Their Dimensions

	Tracked system	Linked system	Unified system
GOVERNMENT AND REGULATION	Different structures for different tracks	Mixed/variable organisational structure	Single administrative and regulatory system
CROSS-CUTTING DIMENSIONS			
Number of tracks	Type of system (i.e., relationship between tracks) may vary across tracks		
Scope	Age range and percentage of cohort covered		

Unification is a process, and like all educational change it is not achieved instantly or through a single measure. Although this chapter focuses on a particular reform in each country, each of these builds on earlier developments. Each is a single (albeit very large) step in the process of unification, and this may make comparisons between the two reforms arbitrary. For example, many of the decentralising measures included in the Swedish reform had already been introduced in Scotland through separate reform measures which preceded Higher Still.

Contexts of the Reform

The Educational Systems

In Sweden students change institutions at age 16, when they leave the compulsory school. Almost the whole cohort (98 %) enters upper secondary school and nearly 90 per cent of these graduate. There is a single main type of institution, the integrated upper secondary school, although not all schools provide all types of programme. In Sweden past curricula have been line-based, and even after the reform 16 national "programmes" are defined (however flexibly) over three years. Before the reform most programmes were two years, a few three years, and one as long as four years. The local authorities have an obligation to take care of all young people up to the age of 20. This means that young people are entitled to education or some kind of occupation; the most convenient way of fulfilling

this obligation is to offer education at upper secondary level. Adults may also take upper secondary courses but they are likely to do so in separate institutions.

In Scotland there is no separate upper secondary school. Most young people attend comprehensive schools which cater for the 12-18 age range. School is compulsory until 16 years, when about 70 per cent continue at school for one post-compulsory year and about 45 per cent continue for a second post-compulsory year. The curriculum is mainly general or academic although most upper secondary students take vocational modules alongside their academic courses, in varying combinations. Courses are short or modular and programmes are usually chosen year-by-year. Upper secondary education is consequently somewhat open-ended; there is no fixed programme, no concept of graduation from upper secondary education and no level which all students are expected to achieve before completing it. Nevertheless, the curriculum does not vary greatly across schools, particularly for students aiming at university.

In addition to (12-18) secondary schools, upper secondary education is also provided in further education (FE) colleges, which have a more vocational orientation than schools, and in work-based youth training schemes (now called Skillseekers). About 15 per cent of young people enter full-time courses at FE colleges (this comprises about 5 per cent entering at 16, at 17 and at 18 respectively) and 25-30 per cent enter Skillseekers (usually at 16 or 17). However, the term "upper secondary education" is normally used, if at all, to refer to school provision only. Most secondary schools are for young people only (although some accept adults), but FE colleges cater for all age groups, and a majority of FE students are adults. Higher Still, the Scottish reform, will have a major impact on adults as well as on young people.

Similar Features

The two systems thus differ (among other things) in their rates of full-time participation, in their institutions, and in the identity of upper secondary education as a discrete stage. There are also important similarities, which may help to explain why each system has chosen the strategy of unification:

- Both systems are - or at least were, before the reforms - homogeneous and centralised.
- Both systems have a strong and institutionalised commitment to comprehensive schooling, to the public provision of education and to equality. In Sweden

the dominance of the Social Democrats for much of the post-war period has had an important influence on the debates and on the kinds of solution that are typically proposed in discussions of reform. Equality has been a theme in most policy debates about education; the right and left wing of Swedish politics agree on the desirability of equality even if they differ in their concept of what this means (see section on Purposes of the Reform below). In Scotland there is a tradition (or at least a rhetoric) of equality of opportunity, and recent debates have revealed a strong public resistance to the principle of explicit selection within the comprehensive school (Howieson et al., 1997).

- In Sweden streaming within the compulsory school has been abolished, after lengthy debates, as of 1996-97. In Scotland there is no streaming in compulsory education in the usual sense of the term, but there is setting by subject, with a flexible system of differentiation by ability for 14-16 courses.
- Both countries have large and unified systems of higher education. Sweden recently rejected the idea of vocational universities. Scotland, along with the rest of the UK, abolished the formal distinction between universities and other higher education institutions in 1992. In Sweden about one-third of graduates from upper secondary schools enter higher education; in Scotland higher education has expanded very rapidly, and in 1995 43 per cent of the age group entered full-time higher education.
- In both countries there is a strong correlation between prior academic attainment and the choice of academic rather than vocational programmes in upper secondary education (although some vocational programmes in Sweden have restricted intakes and have high entry requirements). In both countries school grades are important for university entry, and academic courses or programmes are more likely to lead to university.
- In both countries there is a process of academic drift in student choices, that is, a growing reluctance to take vocational programmes (especially in industrial and technical fields) and a demand for academic programmes, even when these are considered unsuitable for the students concerned. Especially in Scotland this trend reflects the weak demand for full-time vocational qualifications on the labour market.
- In both countries the distinction between general and vocational tracks is weak, and was weak even before the reforms. In Sweden there were distinct general and vocational programmes but these were provided within the same institution. In Scotland there are different academic and vocational courses but most students take programmes which combine both types of courses. The FE college curriculum is more vocational in orientation than that of the school, but FE does not represent a very distinct track since most students enter FE after taking upper secondary courses at school.
- In both countries the labour market is demanding higher levels of education and is perceived to need broader types of skills and knowledge.

In both countries the relative homogeneity and centralisation of the system appear to facilitate unification; but in both countries the reform is accompanied by a trend towards devolution of control to institutions, and a trend towards regulation through monitoring outcomes rather than controlling processes. In Scotland these trends started independently of the Higher Still reform; they have gone furthest in FE colleges, which are autonomous, incorporated institutions with a tradition of flexibility and responsiveness to employer and student demands. In Sweden decentralisation and outcome-based regulation are (as we describe below) features of the reforms.

The Systems Before the Reforms

Figure 5 classifies each system, in terms of the conceptual framework introduced in the previous section of the chapter, as it existed before the reform. Scotland (where the reforms have not yet been implemented) is in the intermediate (linked) category on most dimensions of unification. Before the current reforms were introduced Sweden was in the tracked or linked category on most dimensions.

In Scotland there is considerable overlap in the respective purposes and ethos of the academic, broad (full-time) vocational and work-based "tracks", especially between the first two of these. Both academic and vocational courses in full-time education pursue general educational aims and prepare students both for university and for employment. We therefore classify Scotland as a linked system on the purposes and ethos dimension. There is similar overlap in the curriculum content of the different tracks; for example, in secondary schools there is often joint or articulated delivery of academic courses and vocational modules. However, the methods of assessment differ more across the three tracks, so on the assessment dimension Scotland is classified as tracked. Different certificates are awarded in each track, but as some certificates cover both the general vocational and the work-based tracks we classify Scotland as (just) a linked system on the dimension of certification. However, the structure of courses and the pathways that connect them are already very flexible (most post-compulsory students take both academic and vocational courses), so we classify Scotland as a unified system on this dimension. It is also possible to enter higher education *via* any of the tracks, although the actual likelihood of doing so and the procedures for entry vary, so we classify Scotland as a linked system in this respect. We further classify Scotland as a linked system with respect to local institutions: there is a

	Tracked system	Linked system	Unified system
CONTENT AND PROCESS			
Purpose and ethos	SW	SC	
Curriculum	SW	SC	
Teaching/learning processes		SW SC	
Assessment	SW SC		
SYSTEM ARCHITECTURE			
Certification		SW SC	
Course structure & pathways	SW		SC
Admission requirement (higher education	SW	SC	
DELIVERY			
Local institutions		SC	SW
Modes of participation	SC		SW
Staff	SC	SW	
GOVERNMENT AND REGULATION		SC	SW

CROSS-CUTTING DIMENSIONS

Number of tracks
SC - 3 (academic, general vocational, work-based)
SW - 3 (academic, part-academic, vocational)

Scope
SC - lower participation at 16+, weak upper-age boundary
SW - higher participation at 16+, stronger upper-age boundary

Figure 5. *The Swedish and Scottish Systems Before the Reforms*

relatively clear division of function between schools and colleges, indicative of tracking, but the general secondary school plays a leading role similar to that of the integrated upper secondary school which characterises a unified system. The tracks differ according to mode of participation (e.g.,

full-time and work-based) and have different staff with different qualifications and backgrounds. The government and regulation of post-compulsory education is becoming more unified: education and vocational training have recently been brought under the same department of central government, and the main bodies awarding academic and vocational certificates have been merged.

As mentioned, we can identify three tracks in Scotland (academic, broad vocational and work-based or occupational). However, the first two of these can be difficult to distinguish, reflecting the overlap of purposes and flexibility of pathways discussed above. Finally, upper secondary education (including work-based provision) caters for most young people at 16-plus (if not for as many as in Sweden), but as a stage it is open-ended and there is no clear boundary with provision for adults.

On many of these dimensions Sweden could also have been classified as a linked system before the current reform.

Before the reform the upper secondary school was divided in three main tracks: advanced academic, academic and vocational. There was a clear distinction between tracks, especially between the academic and vocational tracks, and in curriculum and other documents we can see that there were different purposes and ethos. Consequently, in this respect we classify Sweden as a tracked system. The different tracks had different assessment (monitoring) tests in the same subjects.

Certificates from different lines had the same framework and every subject studied was assessed on a scale from 1 to 5. The differences between certificates depended on the subjects studied. In respect of certification we therefore classify Sweden as a linked system. Before the reform every line had its own subjects and structure, and exchanges between the lines were almost impossible; therefore it was a clear tracked system in respect of course structure and pathways. From some of the vocational lines it was impossible to go directly to university, therefore we classify Sweden on this dimension as a tracked system. Since 1970 all upper secondary education in Sweden has had the same responsible body, so in this respect we had and still have a unified system. All upper secondary education is based on full-time study and is in this respect unified. In spite of different syllabuses, in common subjects the students share the same teachers irrespective of line. On this dimension we classify Sweden as a linked system.

In Sweden there was a National Board of Education for vocational as well as for academic education, so in this respect we classify Sweden as a unified system.

Purposes of the Reforms; The Problems They Address

In both countries the reforms aim to increase the attractiveness of vocational education and to promote parity of esteem. However, these goals are part of broader aims.

Equality and Opportunity for All. In both systems, as has been mentioned, the educational culture strongly emphasises equality. In Sweden, the reforms are seen as a logical extension of the sequence of reforms over the last 50 years. These first tackled primary and secondary schools; now more stress is put on the upper secondary school. The rhetoric of reform refers less to unification than to equality and to education of equal worth. Three different aspects of this concept are invoked: equality of access to education, equality of treatment (and judgement) at school and equality of the outcome of the schooling years. The emphasis among these concepts varies across the political spectrum. The liberals (right wing) put more stress on equal chances; as long as everyone has the same access to education it is up to each individual whether or not use the opportunity; this perspective puts the emphasis on choice and flexibility. The social democrats (left wing) tend to favour the idea that all students should share a common basic knowledge when leaving school; this perspective puts more emphasis on prescription and uniformity. Both elements are present in the current reforms, as described below, with a continuing debate about the relative emphasis to be given to individual student choice and to the common core courses.

A similar tension can be seen, in the debates about unification in Scotland, between those favouring choice and flexibility and those wanting the reform to be more strongly underpinned by curricular principles. However, in Scotland this argument has been more decisively settled in favour of choice and flexibility. This is partly because of the existing flexibility of the Scottish system, and its open-ended character, described above. There is little basis in the structures or traditions of Scottish education for identifying a fixed content or level of education which all should achieve. Higher Still aims to develop core skills (numeracy, communication, information technology, problem-solving and working with others) among all young people; but there is no concept of a social minimum level of core skills which all students should achieve, let alone the wider curriculum goals of the Swedish reform, such as its focus on citizenship and attention to internationalisation, ethics and environmental issues.

"Opportunity for all", the subtitle of Higher Still, expresses the principal purpose of the Scottish reform: to offer *all* types of students suitable courses which lead to recognised qualifications. Higher Still responds to the problems created by increased participation in full-time education beyond 16; students now have more diverse needs and abilities than those traditionally served by upper secondary education. The main focus of the reform is thus not on the more traditional academic student whose path to university is assured, but on students with middle and lower levels of attainment, who currently take programmes which mix academic courses and vocational modules. Existing courses do not cater adequately for these students either because they are too difficult (the academic courses) or because they lack status (the vocational modules). The Swedish concept of "a school for everybody" expresses a similar purpose to "opportunity for all". In the previous system the availability of opportunities was uncertain and locally variable; the reform aimed to make opportunities more comprehensive across the country. The Swedish reform also had most impact on middle and lower ability students, and addresses the perceived inadequacy of current provision for these groups. However, in contrast to Scotland there is almost universal participation in upper secondary education, so there is correspondingly more emphasis on students at the very bottom of the educational hierarchy, and especially on unmotivated and underachieving students who have not previously entered upper secondary education. For students who fail in the national programmes, or for other reasons do not take national programmes, there are opportunities to choose individual programmes adapted to their abilities and ambitions. This means that the students can study part of a national programme and later on complete the missing courses in adult education.

Flexibility. As we have seen, the concept of flexibility is closely related to the concepts of equality and opportunity. It is an important theme in both reforms, and one of the main purposes of the Swedish reform, which aims to increase:

- flexibility for individual students (broadening choice of programmes, including the opportunity to study individual programmes; extending choices within programmes; and generally removing barriers and cul-de-sacs within the system);
- flexibility and responsiveness to the needs and demands of employers;
- flexibility for local authorities to determine the provision in an area.

The Scottish system was already flexible in these respects and Higher Still does not specifically aim to increase flexibility. Nevertheless, flexibility is an important theme of the Scottish reform because:

- the reform addresses some of the problems associated with flexibility (e.g., problems of coherence, and problems caused by mixing different types of courses in student programmes); and
- the reform is designed to build on past reforms which enhanced flexibility; the chosen model of unified system emphasises flexibility and choice (for example, there are no compulsory courses or compulsory group awards).

The *rationalisation and efficiency* of upper secondary education is an aim of both reforms. In Scotland this is seen primarily in terms of the structure and design of courses. The existing structure of courses is criticised on several grounds: it does not cater for middle- and lower-ability students (see above); it leads to "incoherent" choices; it provides an "uneven gradient of difficulty" over the school years (compulsory school courses provide insufficient challenge for many school pupils, but post-compulsory courses are often too difficult); and it exaggerates the difference in status between academic courses and vocational modules, since these have different principles of curriculum design, pedagogy, assessment and certification. Higher Still aims to meet these problems by rationalising the structure of courses within a unified system. The Swedish reform focuses less on the structure of the curriculum than on its content and on how it is specified. It aims for rationalisation through decentralisation: allowing more decisions to be taken at the level of the student, the school or the local authorities are seen as a means of ensuring that resources will be more efficiently and more effectively deployed. Decentralisation is a less explicit part of the Scottish strategy, but the model of unified system is compatible with other reforms within the Scottish system which promote greater autonomy and competition among institutions.

Both reforms respond to *the needs of higher education and the labour market*. Both seek to raise general levels and standards of attainment, and to meet the need for higher levels of education in a knowledge-based economy. Both reforms respond to the perceived need for a broader preparation for the labour market, involving a higher level of general education and more emphasis on communication skills and other general competences. This emphasis is particularly important in Sweden, where the reforms address the perceived narrowness and excessive specialisation of the previous vocational programmes. In Scotland breadth is an aim of the reform, but

has not been perceived as one of the main problems to which it responds. Higher Still aims to develop core skills. In general, the Swedish reform appears to be more directly driven by labour-market issues than the Scottish reform. In Sweden there is a continuous curriculum review in collabo-ration with all stakeholders concerned (including stakeholders on the labour market). Finally, better preparation for higher education is a purpose of both reforms. In Scotland current courses are felt to provide an inadequate preparation for university, partly because the levels of attainment are too low, and partly because the pedagogy does not prepare students for the methods of study which are required at university.

The Reforms

The Swedish reform is part of a national reform of the entire educational system, introduced by an Act of the Parliament of 1990-91 and a National Curriculum published subsequent to this in 1993. The reform decentralises responsibility for the provision of education to the 288 local authorities. It introduces a system of management by objectives and results and quality control, with clearer distinctions between responsibilities at different levels, backed up by procedures for monitoring and evaluation. The new curriculum is goal-based and less detailed than the previous one; it thus allows local authorities and schools greater scope to determine the manner in which it will be delivered, including decisions on teaching methods, as well as to devise local courses. A new system of criterion-based assessment is replacing the previous norm-referenced approach.

Under the reform, there are 16 national programmes in upper secondary education, each of three years' length. Two of these programmes (natural and social sciences) focus on university entry; the other 14 are more vocationally oriented. The programmes are modular, based on courses of length varying from 30 hours upwards, and all programmes include courses in eight core subjects. These core subjects were previously part of the academically oriented programmes, but represent new elements within the more vocational programmes. The required level of attainment is the same for the core courses irrespective of the programme being followed. The modular structure is intended to allow students flexibility to choose parts of their programmes and to transfer across programmes. It also allows students to choose locally designed programmes or to construct their own individual programmes; about 10 per cent of students construct individual

programmes, many subsequently transferring to a national programme. For the 14 more vocationally oriented programmes, at least 15 per cent of study time is provided in the workplace. Enterprises may take over responsibility for providing vocational courses; they are able to work with schools to design special programmes and local courses related to local needs. The new upper secondary education programmes are also available to adults, but are usually provided in different institutions.

The Scottish reform (Higher Still) will introduce, in 1999, a unified curriculum and assessment system to cover all post-compulsory education below the level of higher education, except for work-based provision. It will thus cover all upper secondary education in schools, and most full-time provision and much part-time provision in FE colleges. However, it will not cover Skillseekers (work-based youth training). The new system will be based on courses of 160 hours. Each course will consist of units of 40 or 80 hours; units may also be studied separately, that is, not as part of a course. The courses and units will cover all subjects, including academic and vocational subjects, but will follow the standard principles of curriculum specification, assessment and certification. Courses and units will be available at five levels; the bottom three levels overlap with compulsory-school courses, so that a 16-year-old who has not reached the highest level of compulsory-school attainment in a subject may continue studying that subject at one of the lower levels of the Higher Still framework. Students may study different subjects at different levels. A full-time student is likely to study about five courses in a year, with each course being completed by the end of the year. The pattern of year-on-year decision-making will therefore continue. Students may progress in the system either vertically, by taking the same subjects at a higher level, or horizontally, by taking new subjects, or a mixture of the two.

There are no national requirements for course choice; in principle students may "pick and mix" courses. At present many schools encourage or require students to study particular subjects, such as English and mathematics, and most FE students choose ready-made programmes, and this is likely to continue. In addition students may choose courses or units which qualify them for a Scottish Group Award at a given level. Each SGA indicates that a student has reached a given level of attainment in a coherent grouping of subjects, including core skills.

Both reforms build on earlier reforms and developments. The Swedish reform builds on the establishment of the upper secondary school in the 1970s, the Scottish reform on the 1984 reform which introduced a national

system of modular vocational education, as well as on other reforms to institutions and to courses. Both reforms are *systemic* in nature. This may seem tautologous (since they are developing unified *systems*) but has wider implications. Both reforms are large-scale and sweeping and pursue a wide variety of goals. Neither reform could be introduced by using a bottom-up approach that would have started with individual schools or workplaces or with pilot experiments, as in the German and Finnish reforms.

Models of Unified System

However, there are differences between the models of unified system being implemented in Sweden and in Scotland. Some of these differences can be represented in terms of the analytical framework introduced earlier. Figure 6 summarises the changes introduced by the reforms in terms of the dimensions of unification.

As regards the first four dimensions (content and process), Higher Still will introduce a "unified curriculum and assessment system" in Scotland. All (academic and vocational) learning will be provided through a single system of courses and units designed according to common principles of curriculum specification and assessment. However, the Scottish reform focuses on the packaging of the curriculum rather more than on its content. The Swedish reform similarly introduces a unified system, but compared with Scotland it places more emphasis on a common curriculum (content) for all students. Even with the ambition to reduce the divided character of the former culture of separate vocational and academic education there still remain boundaries between the two tracks, but they are less evident. For reasons discussed in the Progress section the unification of teaching/learning processes is not complete in Sweden. In Scotland Higher Still will introduce a unified system architecture (except for work-based provision), building upon a system which is already flexible, especially in the structure of student pathways. Sweden also has a unified structure of courses and programmes, similarly based on a modular approach, but with less flexibility of pathways: most students take three-year national programmes, where most courses are compulsory and specific to a programme, so the opportunities to change between programmes are limited. In both systems all programmes will, in principle, give access to higher education. In neither country do the current reforms substantially affect the three dimensions of delivery. As regards institutions, Sweden already has comprehensive upper secondary schools, and Scotland is retaining its system of schools and FE colleges. However, in Sweden the reform will devolve decision-

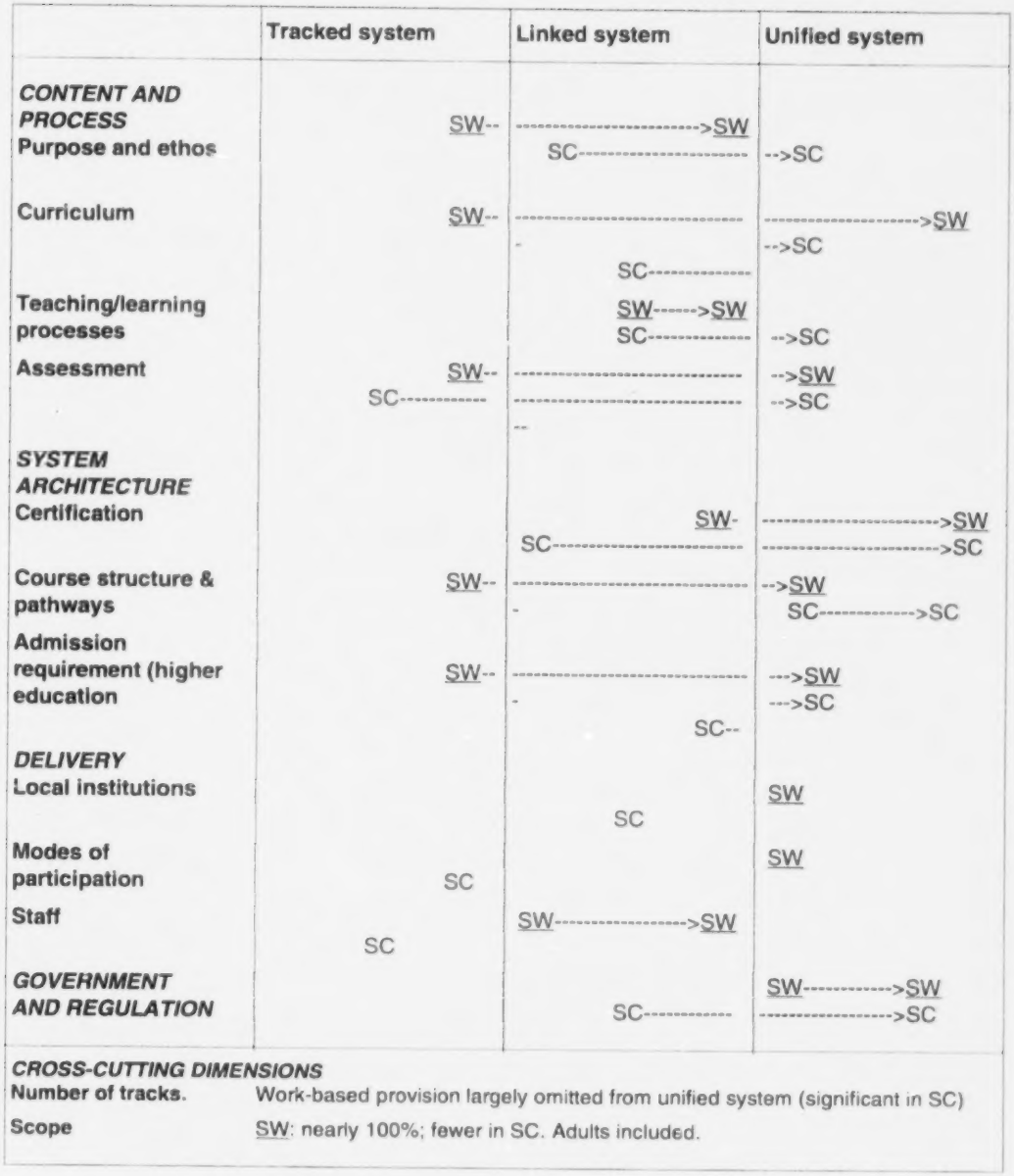

Figure 6. *The Swedish and Scottish Systems, Before and After the Reforms*

making to institutions, and a similar process of devolution has already occurred through separate reforms in Scotland. In both countries the reforms may have indirect effects on the role of institutions and on the pattern

of differentiation among them, possibly taking them away from the model of a unified system in this respect. With the merger of government departments responsible for education and training, and of the bodies awarding academic and vocational qualifications, Scotland is becoming unified in respect of the final dimension of unification, government and regulation. In Sweden the corresponding organisations were already unified.

Finally, as regards the two cross-cutting dimensions, both reforms are mainly school-based. In Scotland there is a relatively large work-based sector which is not covered by the reform. The Higher Still strategy of a unified system only covers the first two (largely full-time) tracks; policies for the relationship between Higher Still and the third (work-based) track could best be described as following a linkages strategy. In Sweden work-based provision, especially apprenticeship, has traditionally been small, and perhaps for this reason it is more fully embraced by the reform than in Scotland. All vocational programmes in Sweden include a workplace element of at least 15 per cent, and the new system permits apprenticeship programmes with a much larger work-based element to be developed, although so far these have been numerically insignificant. Both models cater for adults as well as for young people.

In the introductory section of the chapter we identified four ways in which strategies of unification might differ. These were:

- *The position of the system at the start of the reform.* Both were linked systems balanced in terms of our typology, but with important differences. Sweden already had an integrated upper secondary school and a largely school-based mode of participation on which to build; Scotland already had a largely modular structure of courses and flexible student pathways.
- *How far along the continuum the strategy proposes to move.* As we have seen in Figure 2, on a majority of dimensions both systems will be unified systems after the reforms.
- *The dimensions of unification which are emphasised by the strategy.* The Swedish reform places more emphasis on the curriculum, while the Scottish reform places more emphasis on the way in which the curriculum is packaged - the system architecture and student pathways. Neither reform focuses on delivery, although the Swedish reform might result in greater differentiation among institutions and, in this respect, a less unified system than at present.
- *The cross-cutting dimensions.* The Scottish claim to be developing a unified system must be qualified by the fact that it excludes most work-based provision. It therefore only covers two of the three existing tracks, albeit the two which account for a large majority of young people.

However, our comparison of the two reforms has also revealed a fifth difference: *the concept of unified system*. Earlier we identified a tension between two such concepts. The first emphasises opportunity, flexibility and choice, the second uniformity of treatment and outcome. This tension may be found within each system, but the model of unified system being implemented in Scotland is closer to the former model than that being implemented in Sweden.

There are at least three aspects of this. First, Scottish students will have, in principle, a *free choice of subjects*, although their choices may be constrained by what the institution offers and will be influenced by the requirements of universities and employers. Most Swedish students take a national programme which will typically offer relatively little choice and will include a compulsory core which is common to all programmes. Swedish students may negotiate individual programmes; conversely, Scottish students may take group awards (SGAs), analogous to the national programmes in Sweden. However, individually chosen programmes are likely to play a much larger role in Scotland, where university entry is likely to be based on aggregated attainment in courses rather than on SGAs; in Sweden individual programmes are seen primarily as a temporary expedient for students who will subsequently transfer to a national programme. Moreover, SGAs are expected to restrict choice much less than do Swedish national programmes: there will be considerable scope for choice within each SGA, there will be no national core curriculum covering all SGAs (except for core skills), and since SGAs can be taken in one year, and are available at all five Higher Still levels, even students studying for SGAs will select new programmes at the end of each year, or move back to individual programmes.

Second, the Scottish model has *flexible entry points*, and responds to differences in the prior attainments of students entering the system. The Higher Still framework is best represented as a single ladder of progression. In contrast to a tracked system, which provides different ladders for students with different levels of prior attainment to climb, the Scottish model provides a single ladder; each student starts to climb the ladder at the step which corresponds to his or her previous level of attainment in the subject, and may climb as far as he or she wishes. Thus two 16-year-olds with different levels of attainment in a subject might take courses at different levels in the first post-compulsory year, but they would both be on the same ladder; the student starting at the lower level could potentially climb as high as the other student but he or she would take longer to do so.

The Swedish model, by contrast, does not differentiate provision according to prior attainment. In particular, the eight core subjects are designed to be taught at the same standard across all programmes and for all students.

Third, the Scottish model has *flexible exit points*. How long a student remains in the system, and how far he or she climbs up the ladder, is flexible. The student may leave the system with certificate(s) at any of the five levels. There is no concept of a given standard required for graduation from upper secondary education, nor indeed is there a concept of graduation. (Conversely, there is no concept of dropping-out, except in relation to people who leave a course in the middle of a year.)

The Reasons for the Choice of Strategy

In this section we do not repeat the discussion of the purposes of the reforms and the problems they addressed; these were considered in the Purposes of the Reform section above. Instead we identify three more general sets of reasons why each country chose a unified system rather than one of the other strategies represented in the project.

Future-oriented reasons. All four strategies for parity of esteem covered by the Leonardo project pursue a vision of a future society. The labour market will require new kinds of skills and knowledge from all workers, and in return it will offer scope for individual growth and self-realisation; education will be able to reconcile its goals of individual development with economic and social goals; social divisions and inequalities will be reduced. It is a matter of debate whether this vision can be pursued by the other strategies as effectively as by a unified system. The argument for a unified system is that it is necessary to abolish divisions among students as well as divisions among curricula, and that this will not happen if the integration of academic and vocational curricula takes place within tracks which remain separate. Other arguments are more pragmatic in nature: although other strategies may work in other national contexts, unification is the only strategy that is likely to be effective in Scotland or Sweden.

Pragmatic reasons. In each country there were pragmatic reasons for the choice of a unified system.

- The existing system provided a stronger basis for the development of a unified system than for the other possible strategies. The three other strategies presupposed the existence of well-defined tracks, but especially in Scotland and to a certain extent in Sweden tracks were already weak. The flexibility of Scottish upper-secondary courses, and the integrated Swedish upper secondary school, provided bases on which to construct a unified system.
- In both countries a centralised policy-making structure, a uniform framework of institutions and the school-based nature of education made it easier to develop a unified system.
- In Scotland the lack of a strong technical/vocational tradition would have made it difficult to develop a strong lower track, as the other strategies would have required.
- In both countries the pressures for academic drift made a unified system more practical. For example, in Scotland there was a strong demand from all students for mainstream academic courses and a reluctance to take vocational modules that were lower in status; if Scotland had introduced a track-based system, few people would have entered the lower track.
- The influence of large and unitary higher education sectors, and (in Scotland) the labour market's failure to reward vocational qualifications, reinforced the academic drift described above.

Political reasons. In both countries comprehensive schools had public support and were well entrenched within the educational polity; there was opposition to selection within schools. In Sweden the reform of upper secondary education was seen as a continuation of the reform process since the war in which the extension of equality was a consistent theme. In Scotland public support for comprehensive schools and for the principle of equality had a more negative influence: it led to the rejection of an alternative policy which would have re-introduced tracking. In both countries a policy normally associated with the political left was introduced by a conservative government. This was partly because a relatively "right-wing" model of unified system was adopted, incorporating the principle of flexibility and accompanied by reforms promoting institutional diversity and competition. In Scotland there were more specific reasons for the strong support for flexibility from educational interests, especially the universities.

Progress

The Swedish reform was introduced on a phased basis from 1994. The Scottish reform was originally scheduled for 1997, although it has twice been postponed and will be implemented in 1999. The progress of the Swedish reform is being evaluated and there are continuous reports.

The evaluation of the Swedish reform is in progress and a report is expected in 1997-98. The main evaluation of the Scottish reform has not yet commenced, although there have been consultations over the aims and form of the evaluation. We may identify at least four general questions to be addressed by the evaluations and by other research:

1. Do the reforms achieve their aims? In Sweden the evaluators ask whether the national programmes have met their main objectives, such as flexibility, "a school for everybody", responsibility, wider competence, and meeting the needs of working life and of higher education. They also ask whether the reforms have achieved the intentions of teachers and head-teachers and met the wishes of students. In Scotland the evaluators will ask whether the nine aims of Higher Still have been met: higher standards of attainment; recognised qualifications for all; an even gradient of progression; expansion and rationalisation of existing provision; breadth of attainment; competence in core skills; consolidation of earlier reforms; making the system simpler and more efficient; and unifying curriculum and assessment arrangements (Scottish Office, 1994, pp.9-10).
2. What skills or achievements do students have on completing their upper secondary education? As we have seen, this question may have different implications in Sweden than in the more open-ended Scottish system, but in the latter there is a strong interest in raising general levels of attainment, and in meeting national targets for attainment.
3. How does the reform affect particular groups of students? In Sweden many of the problems and issues associated with the reform are related to the fact that groups of students who hitherto have not entered upper secondary school are now more or less forced to do so. There is therefore interest in underachieving and undermotivated students as well as in those with study difficulties and functional handicaps, and in their ability to complete their upper secondary education. These groups of students are also important for the Scottish evaluation (although their participation in the system will be less extensive than in Sweden). However, in Scotland there will be particular interest in middle-ability students: that

is, the students who are currently caught up in academic drift and take academic courses even though vocational options might be more appropriate and offer better chances of success. The single ladder of the new system is intended to address this problem.

4. Finally, what are the unintended consequences of the reform? In Scotland these may include increased differentiation among institutions, discussed below, and a changed boundary between upper secondary and higher education.

It is too soon to draw conclusions about the effects of either reform, although we are beginning to accumulate experience of the reforms in Sweden, and the consultation process in Scotland has raised several issues. Earlier Scottish reforms (notably the modularisation of vocational education in 1984) also provide relevant lessons. Some of the issues are considered below.

Core Courses. Two problems have arisen in relation to Swedish students on the vocationally oriented programmes. First, some students lack the motivation to study, and this especially affects the theoretical core courses. Second, the standards and course requirements for the core courses are the same for all students irrespective of their study programmes. Many students on the vocationally oriented programmes do not succeed in fulfilling the requirements of the core subjects and fail.

Differentiation of Provision. The model being introduced in Scotland appears to avoid this problem because it differentiates provision according to the single ladder principle: that is, the students who in Sweden might fail a core course could in Scotland take the corresponding subject at a lower level, with the opportunity of progressing to a higher level later. However, the single ladder model raises its own problems: courses in each subject must be provided at different levels, which may be difficult when resources are scarce. One solution is for schools to offer multilevel classes for students at adjacent levels, and courses have been designed to allow this to happen; the prospect of multilevel teaching has caused anxieties among teachers in Scotland, and it may restrict the methods of teaching that they are able to follow.

Flexibility and Choice. In principle the Swedish reform makes all courses offered at an institution available to all students; in practice students tend to choose courses specific to the programme. This precise problem may not arise to the same extent in Scotland, where there is less of a distinction between academic and vocational teachers, and where SGAs are less pre-

scriptive. However, the experience of the earlier modularisation of vocational education was that many vocational programmes in FE colleges offered little or no choice of modules.

Teachers. One reason why Swedish students persist with traditional programme-specific choices is the influence of teachers. General and vocational teachers tend to favour academic and vocational course choices respectively. So far there has been little joint planning, discussing and developing programmes, and the cultures and backgrounds of teachers remain very different. This also has implications for the unification of teaching and learning processes.

Fragmentation. One of the criticisms of the earlier modular reform of Scottish vocational education was that it fragmented the curriculum: teachers taught to the module (or even the learning outcome) rather than to the programme. To some extent Higher Still addresses this problem by grouping modules (units) into larger courses and by introducing integrative assessment for courses and for some SGAs. In Sweden a similar tension has emerged between "programme education" and "course education", with limited integration of the general (core) courses and the vocational courses. Vocational teachers and students find it easier to work with units than with complete programmes.

Individual Programmes. About 6 per cent of 17-year-olds in Sweden are studying individual programmes. Many students on these programmes replace theoretical courses with practical work. The official aim is that after a period of time on the individual programme students will enter a national programme, and a majority have done so. Individual programmes are likely to have a very different status in the Scottish system, where they have been the normal type of programme in secondary schools, and the basis for university entry. In Scotland the question is rather whether higher-attaining students will be attracted to SGAs.

Institutional Differentiation. In Sweden the introduction of the unified system, together with measures to decentralise education and to promote competition among institutions, are expected to increase the differences among schools in the local programmes/courses that they offer. In Scotland the effects on institutional diversity are still a matter for speculation; most schools (as distinct from FE colleges) offer the same basic courses, strongly influenced by the requirements of higher education, but smaller schools, and schools serving disadvantaged areas, may find it harder to deliver the full range of opportunities which Higher Still makes available in principle. Thus in both countries a measure which abolishes or reduces one kind of

differentiation (between programmes) may increase another kind (between institutions). In both countries cooperation among local institutions is necessary to deliver the full range of opportunities and, in Scotland, to facilitate progression between programmes. In Scotland the past experience of collaboration among schools and between schools and colleges may need to be revived. Critics have argued that this collaboration has been made more difficult by measures which promote institutional autonomy and competition.

Labour Market. A research project at the University of Lund is examining the influence exerted by different local organisations on the upper secondary school. The preliminary findings suggest that local industry has increased its influence on vocational programmes. This influence is felt on many different levels. The work-based training that is part of all programmes provides opportunities for the labour market to influence the student's education and the courses comprising the programmes. There are also many examples of the labour market collaborating with schools to design special programmes. There are also cases of the labour market taking full responsibility for a three-year vocational programme, including the core subjects. And as was said before, national vocational programmes are always designed in collaboration between school authorities and representatives of the labour market and of relevant research institutions.

The Swedish Government, more specifically the Minister of Education, is now, after an intensive period of development and evaluation of the upper secondary school, working on possible changes and improvements. In the view of the Government the future development of the upper secondary school should take as its starting point the changing role of vocational education. A national programme with vocational subjects must be flexible enough to allow it being organised in different ways. Such programmes should also include, within their general framework, an alternative study route involving a modern and completely new type of apprenticeship training significantly different from earlier models

To further enhance the quality of programmes with vocational subjects, the Government should examine whether vocational certification within the upper secondary school should be introduced. The core subjects should to a greater extent reflect the character of each programme.

With a view to contributing to the increase in the number of upper secondary school students in the fields of natural science and technology, the Government is giving serious consideration to offering a new technology-oriented programme. The Government's measures aim to build a

stronger bridge between the Swedish upper secondary school and working life.

Higher Education. It is still an open question, in both countries, how the recruitment patterns of universities and colleges will change, and how this will affect the future choices of students in upper secondary education and the development of the system.

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Mapping the National Strategies: A Commentary

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Introduction

The eleven partners that made up the Post-16 Strategies project agreed to map the national reforms which the project had drawn on for its comparisons in relation to seventeen criteria. The eight mappings of national strategies are presented in Appendix II of this report and serve several functions. Firstly, they provide a useful comparative summary of key developments in post-16 education and training in the eight national educational systems. Secondly, they give a series of more specifically national pictures of the reform process than the two-country comparisons of the four strategies that are the basis of the main findings of the project, presented in the previous chapters. Thirdly, they furnish some evidence from which to draw conclusions about possible trans-European trends that go beyond those highlighted by the four strategies. This chapter, therefore, draws on the eight national mappings and argues that they do indicate some trans-European convergences and divergences that relate to common problems facing all European countries, not only those at present in the EU, as they seek to adapt their systems of upper secondary education to the new global circumstances. They also suggest possibilities that we could explore further in the forthcoming SPESNET-project Sharpening Post-16 Strategies by Horizontal and Vertical Networking.

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From Insulated to Connective Systems

A preliminary analysis of the national mappings suggests that the reforms in the eight national educational systems are involved in a change not limited to the simple shift from *tracked* to *unified* systems identified in the four-strategy analysis. The mappings show that all the countries, albeit to a varying extent, are trying to make their national systems of upper secondary education respond more reflexively to the new demands that are being made on them. One way of interpreting this change is to see it as expressed in a move from *insulated* to *connective* systems of upper secondary education.

Connectivity and its Dimensions

For us the idea of a *connective system* contrasts with the more familiar mechanical or organic system models in two ways. First, in a connective system the whole (or overall goal) of the system is not external to the parts as in mechanical system models or only concerned with system survival as in organic systems. Connectivity is expressed *in the parts* of the system, and *in the relations between them*. Secondly, connectivity refers not only to the *internal* relations between the parts of the system but to the *external* links between the system and its environment (for example to changes in labour markets and other sources of innovation). This move towards connectivity can be seen as taking place on two continua - that of *context and content* and that of *structure and process*. The poles of these continua can then be expressed as four dimensions of connectivity on which the different reforms may vary. A preliminary analysis of the mappings suggests that each dimension is represented by a number of trends that may be understood as sub-dimensions

Sub-Dimensions of Connectivity and the Interpretation of National Mappings

The national mappings allow us to identify nine reform trends which are found to varying degrees in each country. They can be grouped

as sub-dimensions of the four dimensions of connectivity already referred to as follows:

Context
- new relationships between educational providers and enterprises (i)
- institutional de-specialisation in relation to learning (ii)

Content
- new approaches to teaching, learning and the curriculum (iii)
- re-professionalising teachers (iv)

Structure
- making the system more inclusive of all learners and potential learners (v)
- increasing flexibility and student choice (vi)
- improving educational and occupational progression (vii)

Process
- bottom-up reforms which have strong local and practitioner support (viii)
- local networking between schools and colleges (ix)

Together these trends represent an overall strategy of creating a more *connective system* of upper secondary education which "knows more about itself", "is more intelligent", knows more about its environment and is able to act on it rather than just adapt to it.

Dimensions of Connectivity and the Four Strategies for Promoting Parity of Esteem

Although there is no simple link between the analysis of the mappings of individual country reforms in terms of dimensions of connectivity and the four strategies, the two forms of analysis do highlight some of the ways in which the strategies differ in their approach to the problems faced by all the nations. The linking of sub-dimensions with the four strategies is not an either/or issue. It follows that the suggestions in Table 8 below are provisional and more indicative of the potential of bringing the two forms of analysis together than of substantive differences between the strategies on the continuum of insulated and connective systems. Furthermore, all the dimensions of connectivity are represented

Table 8.
Dimensions of Connectivity and the Four Strategies

Dimensions of connectivity	Context	Content	Structure	Process
Vocational enhancement	(i),(ii)	(iii),(iv)		(vii)
Linkages			(v),(vi)	
Mutual enrichment		(iii)	(vi)	(viii),(ix)
Unification			(v),(vi),(vii)	

to some extent in each of the strategies; it is a question of the emphasis displayed by each strategy in relation to the four dimensions.

As the following analysis will indicate, the dimensions and sub-dimensions of connectivity are to some extent apparent in all the reforms and in all of the four strategies. However, the mappings suggest significant variations in the extent to which the different reforms place emphasis on the need for their system to become more connective. The trends identified must be treated with caution, and as more like possibilities; not only were the criteria not specified in any detail in the guides for national mapping of reforms, but respondents were only given a limited space in which to map their reforms. The next section provides a brief discussion of each sub-dimension and some of the dilemmas that they raise.

Dimensions and Sub-Dimensions of Connectivity in Post-16 Reforms

Context

(i) New Relationships Between Educational Providers and Enterprises. A number of the reforms point to new ways in which employers should be involved in enhancing learning programmes in vocational education beyond their traditional roles of recruitment and provision of work placements for

apprenticeships. The most explicit example is the German Brandenburg Model Project and the development of learning and working assignments.

(ii) Institutional De-Specialisation in Relation to Learning. The stress on learning at work and links between work-based learning and learning in schools and colleges points to a shift towards more connective systems of upper secondary education. This shift is expressed particularly in less emphasis being placed on learning in institutions such as schools and colleges which specialise in learning and in the emergence of a new focus on learning in workplaces and wherever else it takes place.

Content

(iii) A Renewed Focus on the Processes of Teaching and Learning. The need to question transmission models of teaching and learning and the importance of developing alternative pedagogic approaches receives most attention in the German Brandenburg Model Project. Overcoming the insulation of vocational teachers from industrial trainers is a major goal of the project and the main strategy designed to achieve this goal is collaborative learning and working assignments. In the other national mappings, with the exception of Norway, new approaches to teaching and learning are seen as secondary and indirect rather than the key focus of reform. However, moves to enhance vocational education and to encourage the mixing and possibly mutual enriching of academic and vocational learning which can be found in all the national reforms foreground the learner and inevitably raise questions about pedagogy and the role of teachers in the process of acquisition of knowledge.

(iv) Re-Professionalising Teachers. This is the area in which the different national systems appear to differ most sharply. About half of the countries mapped indicate either that there are no implications for teachers or that they are not recognised in the reforms. For others the implications for the training of teachers are seen as "dramatic" and "involving 2/3rds of the teaching force". Caution is needed in interpreting these observations; the apparent lack of attention to the professional education of teachers may reflect as much the location of the different partners in their national system as any objective features of that system.

Structure

(v) Making the System More Inclusive of the Whole of Each Cohort. Most of the partners recognise in their mapping that the issue of inclusion is important and that in the past systems of upper secondary education have been

explicitly exclusive. The issue, however, takes different forms in the different countries. In England the traditional exclusivity of upper secondary education has meant that there is a section of each 16+ cohort who are deeply alienated from school and reach very low levels of attainment. Therefore, inclusion is being tackled through the introduction of new levels into the qualification framework. In the Nordic countries, on the other hand, there is a long tradition of promoting high participation, and the problem of inclusion focuses more on internal divisions between academic and vocational routes and in particular on how to avoid the exclusion of those on a work-based route.

(vi) Emphasising Flexibility and Student Choice. A number of systems that are in other ways very different stress extending student choice, not only because this is seen as motivating to learners, but because choosing as such has a curriculum role in promoting learner autonomy. However, choice always needs to be seen in the context of the distribution of opportunities. Promoting choice when the opportunities for the most popular choices are not increased could lead to alienation from learning, not its extension.

(vii) Promoting Educational and Occupational Progression. All the national reforms make reference to the importance of improving access to higher education for those on vocational courses. Some stress the issue of progression into employment. There is beginning to be an emphasis on horizontal progression between learning programmes and between jobs at the same level as well as on vertical progression. The extent to which horizontal progression, either in study or at work, is no longer seen as "marking time" or being pushed aside, is an indication of a move towards a more connective system that is able to adapt to and even pre-empt changes in external demands.

Process

(viii) Bottom-Up Reforms Which Have Strong Local and Practitioner Support. In different ways the shift towards bottom-up reforms is exemplified in what are the otherwise very different systems found in Germany, Finland, England and Sweden. In each case, instead of involving attempts to impose changes from above, the reforms are designed to encourage local initiatives which if successful may become exemplars for wider national changes. Such an approach, however, is not without its contradictions; there is no straightforward way of converting local successes into a national policy. One of the lessons of the English experience is of quite radical local initiatives which turn out to be very difficult to extend nationally; so long

as they are local they are not perceived as any threat to wider interests. As soon as local innovations become possibilities on a national scale, they can easily become threats to powerful interests.

(ix) Local Networking Between Schools and Colleges. Most of the national reforms recognise that greater collaboration is needed between providers of post-16 education and training. A shift is apparent from learning in a school or college being bounded by the institutional context towards a greater emphasis on learners organising their learning through the links between their base institution and a number of other institutions. This principle of *institutional connectivity* is most clearly expressed in the experimental reforms of Finnish upper secondary education.

Conclusions

This analysis of the trends identified in the national mappings offers a perspective on changes in post-16 education somewhat different from that opened by the four strategies. It suggests that national reforms, as well as moving along a tracked-unified systems continuum, show some indications of moving in a direction from insulated to connective systems and that this shift is expressed in various degrees across the four dimensions of connectivity - context, content, structure, and process.

In conclusion we suggest that the national mappings and their interpretation has not only brought out new aspects of current national reforms which are not highlighted by the analysis in terms of four strategies, but that it has pointed to an issue which each country and Europe as a whole has to address - if there is a trend towards more unified systems of upper secondary education, what type of unified system is emerging? The issue can be presented diagrammatically as follows in terms of the process of modernisation or types of modernity:

Table 9.
The Process of Modernisation of Systems of Upper Secondary Education in Europe

	Insulated systems	**Connective systems**
Tracked systems	Early Modern (B)	Pre-Modern (A)
Unified systems	Late Modern (C)	Future Modern (D)

The hypothesis of this commentary is, and at this stage it can be no more than a hypothesis, that the eight national educational systems are all somewhere on the vertical continuum between (B) and (C), but that there are fewer signs of movement on the horizontal continuum between (B) or (C) and (D). On the other hand, (D) represents the future of upper secondary education in Europe if the countries of the EU want to be able to respond positively to the new demands and uncertainties of an increasingly global economic and social context.

Shared Learning

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Lessons Across the Strategies and National Cases

The Post-16 Strategies project's intra- and inter-strategy comparisons have been based on interaction, a primary process whose outcome the materials and findings of its analysis are. The research process has cast light on differences between educational cultures and generated the beginnings of a critical perspective on their practices. Educational cultures are comparable but scarcely compatible or commensurable. If we claim that two educational systems are compatible in terms of their practical experiences, we are in fact claiming that they possess a common logical frame of reference and a common language. Further, two educational systems are not only incompatible but incommensurable when they have no access to a neutral language that would allow comparing them without distorting either system. Thus, in the last analysis comparisons may reveal how much educational systems in fact differ and what they have achieved. Comparisons may also reveal national peculiarities that may even have been considered virtues.

The thinking process during which the comparisons and analyses emerged has not taken place apart from and outside the activities of the project. Instead, the team have brought into the work of the project the reworked outcomes of their wide-ranging experience. The quality of their work arises from mutual interaction between team members. Thus, the systems and their features that have been subjected to a comparative analysis have similarly been jointly agreed upon during the shared process.

Previous chapters have largely concentrated on comparisons of paired countries' upper secondary school systems and their selected reforms. The country-pair comparisons were made within the framework of a common strategy for the promotion of parity of esteem. There were four country pairs and four strategies represented by eight countries. Intra-strategy comparisons were needed to produce material for inter-strategy comparisons and to enable the countries to learn from each others' experiences. The purpose of the following inter-strategy comparisons across paired countries has been to judge whether there are any features that could be borrowed by the other country or even to assess the general value of transfer in developing national educational systems.

Simultaneously with strategy comparisons the national teams remapped the national strategies against jointly defined essential indicators of national reforms (see Appendix II). This writing task helped the members to acquire some perspective on the intensive work on intra-strategy comparison and produced material for inter-strategy comparison. It was asked whether the similarities and differences between the paired countries are as important as those between the strategies themselves. It was considered useful to look at the different cases in terms of a strategic mix and to examine one's own strategy through other lenses. The lessons available from other countries and strategies are learnt best when each national strategy is seen as a particular strategic mix.

After the country-pair comparisons and remapping the national strategies had been completed, team members examined each others' strategy comparisons, assessed and criticized them as if from the viewpoint of external observers and considered what they might themselves learn from the three other strategies. Thus the members of the eight national teams and the four strategy teams were invited to examine what lessons each of them had learned from the others and what critical aspects could be pointed out in their own and the others' strategies. As a summing-up each strategy team projected their lessons on their own strategy. A judicious projection of experiences is assumed to prepare ground for future rational action.

The present chapter sums up the sources of the shared learning process and the ways in which the findings of the project have been exploited on a national level. It first gives a summary of what each country, within its specific strategy, has to offer to the other nations to help them to improve their upper secondary education systems and what each country thinks

they are themselves learning from the others. Table 10 assembles the lessons and critique that team members gave each other.

Worth noticing among comments on specific strategies is the Austrians' finding that their reforms include features of the enrichment and linkages strategies. Sweden discovered in its strategy several characteristics common with the strategy of enrichment. In terms of their characteristics, the English GNVQs could with equal justification be said to represent enrichment or linkages. Only Scotland and Sweden identified any features of the unification strategy in their respective reforms. No team called into question the value of their allotted strategy as an analytic tool.

As shown by Table 10, most areas where the parties felt that they had lessons to learn from the others involved flaws in their own reform, strategy or educational system. Most sources of lessons, apart from the forthcoming Scottish reform, are tried good practices. As a result of their inter-strategy comparisons, team members considered that the strengths of the enhancement strategy are higher-level vocational programmes, vocational key qualifications, a philosophy of learning and working assignments and shaping skills, and cooperation between school-based education and workplace training. The strengths and lessons of the strategy of enrichment were found in local- and school-level decision-making in matters involving student choice across and within vocational and general upper secondary schools, the inclusion of apprenticeship in school-based education (the 2+ model), combined teacher training and a core curriculum for guaranteeing lifelong learning skills. The features of the linkages strategy considered worth learning from were its voluntarist approach to key skills and the Vocational Baccalaureate degree as a pathway to employment. In the case of unification team members found matter for thought in its weak and unvalued vocational track, unified curriculum and an assessment system with no fixed end point and with a common school for all.

The questions that team members asked one another reflect each member's starting points and context; at the same time, however, they also reveal gaps in national strategies that may not have received sufficient attention. Accordingly, the question marks following the lessons thus learned indicate what remains to be studied as homework.

Questions About Enhancement Strategies:

- Young people in Austria and Germany choose between a vocational and an academic career by the age of 16 or earlier. Does it result in more students choosing an academic education to make sure that they will have more options later in life, or will they instead postpone the final decision?
- Will the strategy give students sufficient flexibility and mobility to last a lifelong career?
- How could the Brandenburg Model Project be transferred to other vocational areas, e.g., social and health care or multimedia communications?
- How might the pattern of the Model Project at Schwarze Pumpe be applicable to the German academic upper secondary schools, the *Gymnasium*?
- What models of communication have been used in Germany in the collaboration between company supervisors/instructory and school teachers? How have the chosen models worked in different teacher groups with different qualifications?
- Do the double qualification scheme and the expansion of polytechnics create new entrance qualifications to universities?
- The problem of parity of esteem is mainly an extrinsic problem. To what extent can a strategy which focuses on problems intrinsic to vocational education solve this problem?

Questions About Linkages Strategies:

- What kind of linkages are envisaged to extend the educational pathway of those young people (20 per cent) who are not included in the system of baccalaureates in France?
- How is the practical working experience phase of the Vocational Baccalaureate programme combined with school-based learning? What kind of integrated approach to vocational and general learning is being envisaged or realised?
- Are there, especially given the new Government, plans to enhance the linkages between GNVQs and NVQs in England?
- Why has the esteem accorded to vocational education fallen so low in England? How does British industry cope with the great demand for high vocational qualifications at the workplace?
- Is it possible to anticipate that the linkages strategy will lead to a strengthening of the prestige of vocational education in the near future in England?
- In both England and France large numbers of 16- to 19-year-olds are excluded from the educational system. Will present/future reforms be able to cope with this problem?
- What is the ultimate goal of the middle track in England and France?
- What kind of curriculum innovations and new job profiles are involved in attempts to improve GNVQs and the *Baccalaureat professionnel*?

- Do GNVQs promote parity of esteem?
- Has an elite education created in France for advanced workers changed the social hierarchy in education?

Questions About Enrichment Strategies:

- Are there plans in Norway to improve the possibilities of changing from the vocational to the academic track and vice versa?
- Could access to higher education be accomplished by employing the strategy of vocational enhancement in Norway? Why does access to higher education depend on the number of academic subjects or courses?
- Are there moves to strengthen the possibilities of acquiring double qualifications without an additional academic year?
- On the other hand, it is said that the emphasis of the reform is on wider opportunities for gaining higher education qualifications. Does this not counteract one aim of the experiment, weakening academic drift?
- Are the management skills needed for encouraging independence and individual choice on the local level included in teacher training?
- Is promoting flexibility and reducing the number of compulsory subjects associated with a potential loss of quality in education? How are Norway and Finland dealing with this question?
- Do different pathways and different optional courses have different knowledge requirements?
- Does mutual enrichment narrow the gap between academic and vocational upper secondary education, or change the hierarchy in the educational system, or is it only a new level that in reality broadens the gap?
- Does a broad range of courses and student choice affect students who are self-confident, conscious, and high achievers in one way, and students with the opposite characteristics in another? If it does, what is the effect of this differential on the academic/vocational gap?
- How are students informed about their options and helped to make choices?
- Are additional structural changes necessary to make the effect of the reforms lasting after special funding for the Finnish reform ends?

Questions About Unification Strategies:

- In both national reforms the element of work-based or occupational learning is weak (Sweden) or missing (Scotland). Is it possible to attain parity of esteem if no use is made of the learning potential of complex real-life situations, a specific strength of vocational learning?
- Given students' lack of experience of working requirements in real-life situations, are employers prepared to engage young people or does the situation lead to the problem of youth unemployment?

- If core skills are understood in the sense of key competencies, that is, especially as abilities in dealing with complex situations (*competencies to act*), is it possible to foster these competencies without giving students experiences from the real workplace?
- Are there plans to secure a minimum level of upper secondary education to all school leavers? Are there plans to prevent a rather large proportion of young people from leaving the system at an early stage?
- How to ensure middle- and lower-ability students a sound and balanced curriculum? How to address these points without rationalising and designing centralised assessment and certification procedures?
- Are the school systems in the two countries capable of solving the difficult question of pedagogic differentiation that this strategy creates?
- Does the strategy pay sufficient attention to the important issue of the further development of the various vocational/technical traditions in the two countries?
- Can Swedish students move horizontally between the different vocational programmes on the one hand and between the two academic and fourteen vocational programmes on the other?
- How far are module contents predefined by the requirements of universities and employers?

Disseminating and Exploiting Project Results in National Contexts

Because the goals of the Post-16 Strategies project have been connected with the partners' involvement in the work of developing their national educational systems, its results have been put to good use in existing national networks. The experiences, process and findings of the Post-16 Strategies project have had a fundamental transfer value for the development of the eight countries' secondary education systems. Table 11 summarises the impacts of the project on the partners' national concerns and undertakings together with their national dissemination activities among the project's various target groups.

In the Austrian context, the contents of the Post-16 Strategies project have proven relevant to developmental projects in the field of vocational education. The Austrian partners have drawn on the project for their expertise when consulting with representatives of Austrian ministries about reforming apprenticeship training and designing a project that involves a new school-based vocational education programme. Project re-

sults will be presented at national and international conferences held in Austria.

In Germany the Post-16 Strategies project has given the Schwarze Pumpe project, involving policymakers, researchers, teachers and trainers, an international standard of comparison. Project results have served to support evidence gained from national developments. The project has greatly contributed to the development of vocational training in many parts of Germany through its dissemination of the idea of parity of esteem. A project by the ITB concerning an overall reform of vocational education and training in Germany, commissioned by the state of North Rhine-Westphalia, has made direct use of the results of the Post-16 Strategies project. The European experiences accumulated in the project have strengthened arguments for closer cooperation between vocational and general education. The project will be introduced at national and international conferences held in Germany.

In Finland the wide-ranging interest group surrounding the project has made youth education reform, one of the reforms presented in the project, more visible. The project has opened a window on Europe and thus given those working for national solutions new arguments to draw on.

In Norway project results are being exploited in educational planning on provincial, central administrative and ministry level. The teacher training college (Agder College) participating in the project will spread its results to all vocational teacher training colleges in Norway.

England and Scotland exploit project work and its results by publishing papers and giving presentations at scientific conferences. The project's interim and final reports will also be used as required reading on MA programmes in the University of London. The Post-16 Strategies project has made a valuable contribution to the collaborative Anglo-Scottish Unified Learning Project and to government consultations about upgrading vocational education and promoting parity of esteem.

In France project results are being made available to teachers, policy makers, administrators and researchers involved in science education. The French partners are also using the Internet as a channel of dissemination.

In Sweden the results will be incorporated into the national evaluation of upper secondary education and its findings. The evaluators are people working on educational policy and representatives of schools and research institutes.

Making the project visible and ensuring, at its various stages, the many-sided spread of information has, generally speaking, made its target

groups realise the importance of promoting parity of esteem as a policy goal. According to the researchers participating in the project team, the issue of parity of esteem raised and urged by the Leonardo programme will be further elaborated and developed in the different countries. For example, in Finland the Government issued, in May 1997, a declaration about "Enhancing Esteem for Vocational Education".

Study Visits Between European Pilot Schools

Within the project team, collaboration between schools piloting and implementing reforms and the researchers varied from country to country. Because of budget cuts it was not possible to standardize their forms within the project. Accordingly, their purpose was to make the management of schools collaborating with the researchers, administrators and teacher educators participating in the project familiar with other pilot schools in Europe. Visitors were expected to create a collaboration link with the schools that they investigated. They were given a number of questions to guide their exploration, and in their study visit reports they answered some of them. The questions and one report are included in Appendix III. In each country practitioners' study visits were coordinated and in some cases accompanied by local partner researchers. The visits were made reciprocally between Austria and Finland, Germany and Norway, England and Sweden, and Scotland and Finland, and from France to Germany. The visits spread information about the Post-16 Strategies project at the schools and among administrators.

The reciprocal study visits of German trainers and Norwegian teacher educators (see the case study in Appendix III) cast complementary light on the advantages and weaknesses of two fundamentally different reforms: the Norwegian reform is national and systemic, also covering initial teacher education, while the German reform is a single model experiment. The Norwegian reform represents school-based systems, the German reform dual systems. The areas where the parties found grounds for establishing further linkages for mutual learning are the German concepts of learning and working assignments, shaping skills, double qualifications and occupational pedagogy and the Norwegian model of combined teacher training and 2+ model. The study visit by the French partners to southern Germany created an initiative involving new possibilities of cooperation between the Schwarze Pumpe reform project and the southern German states.

Reciprocal visits by head teachers of post-16 education establishments in Austria and Finland gave the participants an opportunity to learn from the other country's experiences from reforming vocational education at the secondary and tertiary level. The Finnish visitors learnt about the effective Austrian on-the-job learning methods while the Austrians found value in Finland in cooperation between vocational and academic schools, differentiation of learning and the flexibility provided by student choice from compulsory and optional courses and modules.

English head teachers were familiarized with the Swedish national reform through a visit to a Swedish school. In their opinion, the status of vocational education in the Swedish upper secondary system rests on an interesting combination of features: innovative and futuristic learning styles combined with a high proportion of contact hours and longer study times as compared to England, close relationships between schools, teachers and industry, all of this underpinned by serious levels of investment. The Swedish visitors found worthwhile lessons in English students' self-study methods and practical work experience.

Visits between Scottish and Finnish school staff resulted in the discovery of the following common areas of future collaboration: learner-centred methodologies and the changing role of teachers, guidance and counselling within and across the curriculum, integration of core skills, extending links with industry, and networks supporting staff development. In Scotland the Finnish practitioners explored the General Scottish Vocational Qualifications (GSVQs) and Quality Assurance.

As mentioned previously, reforms in four partner countries (Finland, Germany, Norway and Sweden) also involved follow-up research and, as a result, collaboration between administrators, schools and researchers. In addition, the French qualifications reform has been the subject of systematic evaluation since the end of the 1980s. Worth considering here are forms of collaboration between researchers and practitioners on follow-up research and the question of what kind of research might have the highest potential for improving practice. In Finland, Norway and Sweden follow-up research on the reforms comprises traditional studies managed by researchers and the administrators who are the users of such evaluation services. Generally speaking, it is not at all obvious whether such evaluation studies benefit daily practice at school and teachers' work.

In terms of the actual impact of researcher-practitioner collaboration, the most effective research design is probably collaborative action research, *accompanying research*, applied in the Schwarze Pumpe reform project in

Germany. Policymakers, planners, curriculum development groups, teachers, trainers, researchers and other co-learning research partners are working together for educational development and research. Both practitioners and researchers strive to develop a shared understanding of their separate but complementary enterprises. The drawback and advantage of research of this type is that as a multi-level and complex process it is unable to go beyond case studies. As its advantages may be mentioned effective intervention and practitioners' physical and conceptual access to relevant research findings. Shared learning between teachers, researchers and administrators through evaluation research is a vision to guide the forthcoming dissemination and multiplier-effect project.

Promoting parity of esteem has proven to be an important issue in the eight countries' educational systems. This study focused on the problems of disparity as they affect upper secondary education. In the field of higher education such problems are as yet unrecognized, especially as regards graduate programmes. After parity of esteem has entered national awareness we may anticipate a period of elaboration.

Table 10.
Lessons Across Strategies and National Cases

Strategies and Countries		Enhancement		Enrichment		Linkages		Unification	
		Austria	**Germany**	**Finland**	**Norway**	**England**	**France**	**Scotland**	**Sweden**
ENHANCEMENT	**Austria**	Enrichment and linkages are found in the Austrian system	Developing higher-level vocational programmes Shared learning between researchers and stakeholders through accompanying research in Germany	The academic track is not enriched by vocational features in Finland	Professional pride and strong vocational culture How to integrate theoretical and practical knowledge?	Higher-level vocational programmes Pedagogic cooperation between schools and workplaces	Linkages between school- and work-based learning	Pathways to higher education via vocational education	Raising the standard of work-based learning
		Providing access to tertiary education by integrating academic subject matter within VET						No moves towards unification	
	Germany	Double qualifications							
		Vocational key qualifications	Shaping skills Philosophy of learning and working assignments	Cooperation between schools and companies	Cooperation between schools and companies and between teachers and trainers	German key / core skills - lesson to English policymakers High-quality work-based route	Pedagogical developments from Germany	The ideal of equal opportunity may not come true in working life Work-based learning for lower-attaining trainees	School-company collaboration
		Combination of vocational and general/academic education							

Table continues

Table 10. (continued)
Lessons Across Strategies and National Cases

Strategies and Countries	Enhancement		Enrichment		Linkages		Unification	
	Austria	**Germany**	**Finland**	**Norway**	**England**	**France**	**Scotland**	**Sweden**
Finland	Vocational contents in academic upper secondary school programmes	Cooperation between vocational and general schools	Promoting local decision-making Student choice across and within vocational and general programmes	General competence and specialist skills for all	Opportunities for all students, high rate of inclusion	Decision-making power in the hands of local authorities Student choice	No plans for unification	Opportunities for all at any stage of the lifespan
ENRICHMENT			Value of combined, vocational and general learning process					
Norway	General contents in vocational programmes	The Norwegian 2+ model could be further developed for incorporation into the dual system Mutual enrichment between schools and companies	Comprehensive institutions for post-16 education Dual qualifications	Enrichment: • core curriculum for all to ensure life-long learning • school- and work-based learning under the 2+ model • combined teacher training	Overarching national philosophy from Norway. Rationalisation of the number of vocational areas Inclusion of apprenticeship	Initial teacher education and training Financial involvement of companies	Inclusion of apprenticeship	Problems with evaluating the reform Networking with companies

Table continues

Table 10. (continued)
Lessons Across Strategies and National Cases

Strategies and Countries		Enhancement		Enrichment		Linkages		Unification	
		Austria	**Germany**	**Finland**	**Norway**	**England**	**France**	**Scotland**	**Sweden**
LINKAGES	**England**	English and French experiences can be used to appraise the consequences of Austrian reforms		What kinds of content and skill are learned in vocational programmes?		Weak vocational track Voluntarist approach to key skills		Increased self-awareness and conceptual clarification	Promotion of parity of esteem leaves academic programmes untouched
	France					Linkages between vocational and general/academic certification and qualifications		Unification will hardly remove a deeply-rooted distinction between vocational and general learning	
		Academic upper secondary schools (AHS) prepare poorly for the workforce	Transferring *Baccalaureat professionnel* to Germany	The problems involved in student choice and modularization of programmes: didactic, organisational and financial aspects			*Baccalaureat professionnel* as a pathway to employment Includes 16-22 weeks of work-based learning	Incorporation of work-based learning into a unified system *Baccalaureat professionnel*	Higher-level vocational training for motivated and successful students

Table continues

Table 10. (continued)
Lessons Across Strategies and National Cases

Strategies and Countries	Enhancement		Enrichment		Linkages		Unification	
	Austria	**Germany**	**Finland**	**Norway**	**England**	**France**	**Scotland**	**Sweden**
Scotland			No concept of upper secondary graduation (no fixed end point)	Ideology of equality Weaknesses of the unification strategy as a confirmation of the Norwegian 2+ model and vocational tradition	Student choice Flexibility Modular-isation	No concept of dropping-out in the Scottish reform	Weak and unvalued vocational track Unified curriculum and assessment system	
Sweden						Delivery of academic courses and vocational modules should be complementary and sustainable in France	Same opportunities of progression for all students	
	Relative social prestige of vocational and general education	Swedish strategy challenges the German system in the area of equal opportunities	Swedish vocational students' hands-on training (15% of study time)	Democratic tradition Similarities	A common school for all Core curriculum			16 study programmes (2 general and 14 vocational) Many examples of mutual enrichment

UNIFICATION

Table 11.
Exploiting Project Results in National Contexts

National context	Target groups				
	Policymakers Decision-makers	**School administrators**	**Researchers**	**Outcomes**	**Other groups/ activities**
Austria	National consultations including comparisons with European countries	Creating a new type of school-based vocational education programme	Paper: "New Strategies for Post-16 Vocational Education and Training in Eight European Countries"	Report: "Strategies to Promote Vocational Training in Austria" International conference	
Germany	Evidence from other countries to support the Brandenburg Model Project (Schwarze Pumpe) Collaboration with CEDEFOP	Drawing on direct international experience for the project, including transfer activities Developing vocational teacher education	Accompanying research in the Schwarze Pumpe project INTEQUAL and EUROPROF partnerships	National and international conferences; reports: "Schwarze Pumpe" "Reform of Vocational Education in Germany" "Education of Vocational Teachers"	Transfer to • The state of Brandenburg as a whole • Schleswig-Holstein • Saxony and Mecklenburg-Vorpommerania • Bavarian Model Project
Finland	A review of the Finnish reform in relation to other reforms presented in the Post-16 Strategies project	Salo and Tornio experimental reform units	International workshop on Individualization and Post-Compulsory Education and Training	Presentation at the IVETA international conference Aug 1997 National seminar	

Table continues

Table 11. (continued)
Exploiting Project Results in National Contexts

National context	Target groups				
	Policymakers Decision-makers	**School administrators**	**Researchers**	**Outcomes**	**Other groups/ activities**
Norway	Ministry of the Church, Education and Research National Board of Education	Regional upper secondary schools Norwegian teacher educators Provincial educational administration	National Institute of Technology	Presentation at the IVETA international conference Aug 1997	
England	Consulting the Government on upgrading vocational education and promoting parity of esteem	WWW page	A launch of the Final Report at the Institute of Education A presentation at the conference of British Educational Research Possible articles in JEW, JVET, JRPCET Collaboration with British universities	Possibly a book published in Bedford Way series National conference Anglo-Scottish Unified Learning Project	Distributing the flyer of the Final Report over the network of the Post-16 Education Centre (n=3000+) Using the books as required reading for MA students
France	Curriculum development in science education	Mainly groups involved in curriculum development and teacher training	Workshops for researchers of science education	European Approaches to Vocational Educatior, Bordeaux Feb 1997	Online information • large audiences • Web server of the INRP • European Association for Technology Education

Table continues

Table 11. (continued)
Exploiting Project Results in National Contexts

National context	Target groups				
	Policymakers Decision-makers	**School administrators**	**Researchers**	**Outcomes**	**Other groups/ activities**
Scotland	Anglo-Scottish Unified Learning Project -> a learning process in policy development and implementation Interviews Seminar on Scottish Enterprise, July 1997		ESRC's Learning Society Programme Presentation at ECER 97, Frankfurt	Working papers Seminars ISES Seminar Paper in Scottish Educational Review CES Briefing	Inputs to mature students in MSc classes 1996-97
Sweden	Evaluation results and the international connection	Evaluation of the upper secondary school reform	Conducting evaluation	Workshops Seminars Newsletters Evaluation Reports	

Summary and Conclusions

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This book is also the final report of the Leonardo da Vinci Post-16 Strategies project. The project had two main aims. The first was to identify European strategies for promoting parity of esteem between academic and vocational education. The second was to demonstrate the policy lessons that could be learned when researchers from six EU countries and Norway submit reforms of their national systems of upper secondary education to collaborative comparative analysis. The Interim Report of the project (Lasonen, 1996) consisted of detailed critical analyses of selected reforms in each of the eight nations participating in the project. It also explored how each of the reforms tackled a number of major themes and issues of concern to every European country. In the process of preparing the interim report, the project partners identified four ideal-type strategies for promoting parity of esteem that described the different national approaches to reform.

The main aim of this final report has been to evaluate the usefulness of the fourfold typology of reform strategies as a guide for future VET policy in member countries and in the European Union as a whole as well as in Norway. It began with a review of the conceptual basis of the typology by Young and Raffe (see the chapter on *The Four Strategies for Promoting Parity of Esteem*) and an introduction to the approach to evaluation adopted by the project team, which draws on comparisons of reforms in the two countries associated with each strategy, undertaken by each pair of partners within the project team. Young and Raffe argue that, although the typology of four strategies has proved useful for organising much complex material for comparison across the eight educational systems, it can lead to a number

of oversimplifications. First, it underemphasises differences within each strategy. In other words, the considerable variations in the strategies of the nations classified together tend to be overshadowed by a concentration on the similarities. This weakness is partially remedied in the *two-country comparisons* reported in the comparative chapters on Austria and Germany, Finland and Norway, England and France, and Scotland and Sweden where the differences between the pairs of countries associated with the same strategy are given as much stress as their similarities. Second, the typology overemphasises distinctions between strategies when the nations identified as having different dominant strategies can sometimes be shown to have much in common in their approaches to reform. Third, it is pointed out that the conceptual distinction between linkages and mutual enrichment, the two intermediate strategies, is far from clear. In order to overcome this problem in any future analysis it is suggested that as an alternative to the fourfold typology, the use of a continuum, with no intermediate categories and track-based and unifying strategies as polar types, is explored. Fourth, the typology of four strategies does not sufficiently stress the fact that, although one strategy may be dominant in any educational system, the reality is that individual nations are invariably found to adopt a "mix" of strategies. These points are brought out in each of the two-country comparisons, but they raise important pointers for the SPES-NET multiplier-effect project due to begin later this year.

The chapter *Enhancing Vocational Programmes in Austria and Germany* compares the two countries, Germany and Austria, which have adopted a *vocational enhancement* strategy; it shows the value, especially in relation to the goal of raising the status and attractiveness of a work-based vocational route, of a focus on countries which have traditionally strong systems of vocational education and training and are seeking to promote parity from within the vocational track. The chapter on the Finnish and Norwegian reforms, *The Strategy of Mutual Enrichment and Upper Secondary Education Reforms*, describes two strong systems of full-time vocational education, both of which are seeking to introduce greater flexibility for all learners. Beyond a common focus on increasing flexibility, the similarities in recent reforms in the two countries are less apparent. By the end of the chapter it is argued that whereas the Finnish reforms represent a *mutual enhancement* strategy in a clearly tracked system, Norway has adopted features of a more unifying approach. Nevertheless, the comparison between the two countries is fruitful and we are reminded that the origin of the category *mutual enrichment* was less an attempt to develop cross-national comparisons and

more an effort to identify the specific aims and outcomes of the Finnish reforms.

The chapter *Linkage Approaches to Post-16 Education Reforms* describes *linkage strategies* in France and England and in doing so finds more differences than similarities in the reforms introduced in the two countries. The main conclusion of the chapter is that a *linkage* strategy in a country with a weak tradition of vocational education that is not complemented by a systematic approach to *vocational enhancement* is doomed to reproduce a weak tracked system.

Finally, the analysis of Scottish and Swedish approaches to unification in the chapter *The Strategy of a Unified System* introduces two new ideas. The first is that strategies are more likely to operate on one or more dimensions (such as certification) of a system, not on the system as a whole, and the second that unified systems and unifying strategies can vary. Although the Scottish and Swedish researchers define the dominant strategies in Sweden and Scotland as unifying, it is clear that they embody very different visions of a unified system - the Scottish approach gives more emphasis to choice and flexibility and that taken in Sweden to the coherence of programmes and commonality of learning for all learners.

The final section of the report is based on the national mapping of reforms in the eight nations represented, carried out by each partner (Appendix II). The *Mapping the National Strategies* chapter presents a preliminary discussion of the national mappings by Young and Volanen. Their analysis points to a further dimension on which national strategies vary but which the typology of four strategies, with its emphasis on tracks and unification, does not highlight. Young and Volanen suggest that there is some evidence that in response to global economic changes, European systems of post-compulsory education, as well as moving away from tracks, are becoming more "connective" (Young, 1998). The concept of a connective system refers to the idea that a system must "represent..... more than the sum of (its) component parts" (Nyhan, 1997) and that the relationships between the parts are as important as the parts themselves. Nyhan is referring to links between national systems in a new European reality. However, the concept can equally well apply to a reform trend within national systems.

If the interim and final reports are taken together, the Post-16 Strategies project provides a comparative account of reform strategies for upper secondary education in six EU member countries and in Norway and a conceptual framework for taking the analysis further and extending it to

other countries. The SPES-NET multiplier-effect project, in which most existing partners will participate and which several new ones will join, will offer an opportunity to explore the value of the framework that we have developed.

In concluding this report, I want to end by considering the ways in which the project can be seen as a contribution to the more general goals of the Leonardo da Vinci programme (its Surveys and Analyses strand) of which it has been a part. To do this I shall draw on a recent paper by Nyhan in which he identifies the four key domains into which the issues involved in the Leonardo da Vinci programme have been grouped (Nyhan, 1997). He summarises these as:

- improving the quality and innovation capacity of European VET systems;
- developing a European dimension within national VET systems;
- promoting new forms of cooperative learning arrangements as a basis for lifelong learning; and
- promoting the industrial investment role of VET.

As the Post-16 Strategies project did not have industrial partners, I shall only be concerned with the first three domains, though indirectly there is a clear argument for the productive role of vocational education and training running through this report. Nyhan raises a number of issues that the domains point to. In relation to issues of quality and capacity, Nyhan refers to the importance of reversing the academic drift that has characterised all post-compulsory education systems in recent years. He argues for finding ways of renewing interest in vocational and practical knowledge and stresses the important role that it continues to play in the economies of all countries. The four strategies identified in the project point to different ways of trying to halt academic drift - either by opening up progression routes to higher education for those on vocational courses or by enhancing the programmes themselves so that students do not have to choose between programmes based primarily on theoretical or practical knowledge.

Nyhan's second issue is one which lay at the heart of the Post-16 Strategies project, concerned with achieving parity of esteem between academic and vocational education. The lesson from the project is that European countries can learn from the different strategies adopted by other countries, because a single strategy is never adequate. Our research shows that a concentration on a single strategy invariably reflects past features of the particular system rather than the current needs of learners. This is

especially true of those countries trying to unify academic and vocational programmes or to provide linkages between them without at the same time developing a strategy for enhancing vocational education.

The third issue concerning the capacity of European VET systems raised by Nyhan is that of social exclusion. All countries have a section of every cohort, and sometimes this amounts to 1 in 5 students, who lack the fundamental abilities and aptitudes that are needed to be employable and even to benefit from existing education and training provision. As new forms of work develop which demand more sophisticated skills and as many of the traditional unskilled jobs disappear, this problem can only become more acute. Exclusion was only considered towards the end of the Post-16 Strategies project. The tentative conclusion of the project is that a work-based route within upper secondary education offers the best way of maximising the possibilities of overcoming the exclusion of the lowest quartile in the ability range, provided that these programmes are not, as they have been in the past, separated from full-time programmes through their own certification.

The second domain of issues identified by Nyhan in the Leonardo da Vinci Council Decision was concerned with developing a European dimension to VET and VET research. This is likely to be a slow process, partly on account of language problems but more because of the resistance to change by national systems with very different histories. Nevertheless, the Post-16 Strategies project demonstrated that economic changes to which national VET systems are having to respond are global and common across different European countries. Increasingly the European issue for post-16 education is to debate the kind of system we should be aiming for in the future. The VET systems in the seven countries and eight nations involved in the project remain, however, some way from Nyhan's ambitious suggestion that they should "take on an agenda-setting role, leading debates about the future of European society".

Nyhan also stresses the importance of the approach to research encouraged by the Leonardo da Vinci programme. First, he notes that in order to carry out the necessary conceptual mapping from a European perspective "a collaborative approach ...is called for, entailing the joint development of European models by researchers from different countries ... going beyond the traditional comparative research model". (Nyhan, 1997)

This is exactly what the Post-16 Strategies project set out to do by bringing together in pairs researchers from contrasting countries (see reports on the Leonardo themes in Lasonen, 1996) and from similar countries

(see the country pair reports in this book). The framework of analysis developed is, therefore, a product of genuine cross-country collaboration. Nyhan also argues that in order to fulfill the aims of the Leonardo da Vinci programme, research projects need to complement the more traditional descriptive/analytical approach to research. He stresses the importance of what he calls a "scene setting approach" that attempts to answer the question "what should we be doing in the future" and of an "action research approach" which suggests how things might be improved. The Post-16 Strategies project attempted to link analysis, scenario building and practical action by (a) broadening the base of the team to include teacher educators and government policymakers, (b) involving practitioners in study visits designed to explore the practical use of the concepts developed, and (c) arranging meetings with a range of stakeholders in the different partner countries.

The third Leonardo domain was concerned with co-operative learning arrangements to support lifelong learning. This raises issues that the Post-16 Strategies project barely touched on, given its more systemic and strategic focus. Making lifelong learning a reality depends on establishing strong links between education and business. These can then be the basis for supporting students in becoming active self-learners and for integrating work experience into the curriculum in order to facilitate their "skills of transfer" of learning from school to work and vice versa. These issues are explicitly mentioned in the chapter *Enhancing Vocational Programmes in Austria and Germany* on the vocational enhancement strategy and the idea of learning and work assignments. They are being taken further in the 4th Framework (TSER) Project Work Experience as an Education and Training Strategy coordinated at the Institute of Education, University of London (Griffiths, 1997). A shift to a lifelong approach to learning will also involve new types of professional development for teachers (Young and Guile, 1997). This was not a central topic for the Post-16 Strategies project though it is discussed in some detail with reference to the Norwegian reforms. It is a central issue for the Leonardo da Vinci EUROPROF project.

If the strategies for promoting parity of esteem identified by the project are to become a reality, the involvement of stakeholders is crucial. As the *Shared Learning* chapter describes, the project created a number of opportunities for shared learning with stakeholders which will be extended and continued in the multiplier-effect project. The Post-16 Strategies project also created the basis for a network of researchers with expertise in the issue of strategies for achieving parity of esteem between vocational and academic

education. It is to be hoped that the recently established VET Forum and its proposal to the EU for funding to support a Learning Community of VET Researchers will provide opportunities to build on these links and take them further.

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Appendix I
The Results of the Post-16 Strategies Project: The Perspective of a Policymaker

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Introduction

In this paper I shall comment on the Post-16 Strategies project in my capacity as an educational policymaker and administrator. I wish to emphasize that I find the Post-16 Strategies project very rich both in empirical material and in policy implications and that it thus deserves a detailed discussion. However, since the space allotted to me is limited, I shall not even try to be comprehensive but shall instead concentrate on those questions which are relevant in terms of practical policy measures.

Attractiveness of Initial Vocational Education

To begin with, I think that the project as a whole seems very useful from the point of the educational policy-maker and administrator. The core objective of the project, improving the attractiveness of initial vocational education, is an acute problem in all European countries, including Finland. The way in which the problem is posed in the project, in terms of an analysis and synthesis of experiences gained from educational reforms, is very interesting. Further, the results produced so far are most promising.

My second comment deals with these results. The Post-16 Strategies project has investigated upper secondary education reforms carried out in several European countries and discusses the potential of these reforms for improving the attractiveness of initial vocational education. The project has classified reform strategies into four groups:

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- *Vocational Enhancement* (incorporating optional general education components into vocational programmes, as in Germany and Austria);
- *Mutual Enrichment* (bringing vocational education institutions and general upper secondary schools closer through cooperation, as in Finland and Norway);
- *Linkages* (making vocational and general education formally equal by linking both to a common qualification structure, as in England and France); and
- *Unification* (merging vocational and general education into one another, as in Sweden and Scotland).

The Problem

In order to evaluate the significance of these strategies we must first identify the reasons why initial vocational education fails to attract young people. Why do students and their parents prefer general upper secondary schools to vocational upper secondary schools?

I think that in the interim report of this project Raimo Mäkinen and Matti Vesa Volanen (Mäkinen & Volanen, 1996) have succeeded in supplying good answers to this question. Firstly, compared to the general school today's vocational education fails to provide students with sufficiently secure formal eligibility and substantive qualifications for higher education. Secondly, the vocational upper secondary school does not deliver vocational qualifications with the same job prospects as higher education. The employment, career and income prospects it provides are no more than reasonable, to say nothing of the power and prestige associated with them.

The next question is, what should be done in initial vocational education so as to ensure that it offers students the same kind of qualifications as general/academic education? First of all, we should bear in mind that the answer cannot be changing vocational education to resemble general/academic education. Initial vocational education has a place of its own, determined by the demands of working life: it trains skilled workers to carry out floor-level tasks in production and services. Accordingly, the question is, more specifically, how, in view of this basic mission, initial vocational education could provide students with the same qualifications as general/academic education.

The Four Solutions

I can see that the four European strategies defined by the Post-16 Strategies project all address this question in a similar way: they seek a means of diminishing or eliminating the difference between the contents of the study programmes offered in general and in vocational education. It seems to me that there is a trend in Europe towards an educational system where general and vocational education in practice converge. (However, I emphasize that educational content is the key to this development, because these strategies differ from each other with regard to the relative status accorded to general and vocational education. Some countries want to keep general education institutions and vocational education institutions clearly apart, whereas some countries have already merged these two educational tracks.)

I think that this convergence of general and vocational education is the right way to approach the problem of the lack of attractiveness of vocational education. But let us not forget what other impacts this strategy has. If vocational education programmes contain more academic elements or if vocational education students take more optional academic courses, there is the danger that either study times will become longer or school leavers may lack adequate job skills. The first alternative would mean growing educational costs, and in this respect we already have problems in Finland - as is also true of many other European countries. The latter alternative would make students less able to cope with actual jobs, which would mean increasing the training responsibilities of enterprises and other working-life organizations.

Both - And

In my opinion, increasing educational investment and giving employers greater responsibilities for training their employees are both necessary, that is, we should choose both. Improving the attractiveness of vocational education is important, and we must be ready to pay for it. Skilled workers are needed in working life, and they will not be available unless a sufficient number of young people complete initial vocational education. A lack of skilled workers leads to production losses and economic stagnation.

On the other hand, there are also good arguments for introducing more academic components into initial vocational education. First of all, the rationalization and mechanization of production and the introduction of new technologies will lead to a decrease in the absolute and relative proportion of floor-level workers at the same time as the cognitive and theoretical requirements set to these workers rise.

Secondly, this increasing specialization in working life means that it will be impossible for initial vocational education to meet the acute demand for skilled workers. Preferably, the role of initial vocational education should be to provide students with general vocational qualifications and with learning skills. At the same time, to meet the needs of workplaces the training facilities of enterprises and other employers should be developed to process the "semifinished product" delivered by the vocational education institutions.

In addition, we could improve the attractiveness of vocational education by increasing the proportion of apprenticeship-type training, following the example of the initial vocational education systems of Germany and Austria; that is, more training should be given on the job. The benefit of this policy is that it improves the employability of vocational school leavers by bringing education closer to working life.

It would be worthwhile to discuss yet another strategy, which, however, is absent from the strategy arsenal of the Post-16 Strategies project. This strategy would mean capitalizing on the greatest strength of vocational education, that is, on the opportunities it offers for learning in the practical context of work. What I mean is that this kind of hands-on learning is very attractive to many students. However, such *learning by doing* requires developing work routines into a method which helps the student to learn general rules and theories more efficiently and rapidly than in a classroom setting, which in turn is very typical of general education.

An Administrator's View

These were some of the ideas generated by the Post-16 Strategies project. I think that this project is most interesting and useful, especially in providing educational policy-makers and educational administrators with information about the efforts made in Europe to improve the attractiveness of initial vocational education. It gives a clear picture of the

options available to governments when they make policy decisions on initial vocational education.

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Appendix II
Remapping the National Strategies

Criteria for Mapping National Strategies

Please try and write *a few lines* under each heading. If a heading is unclear, just say what your problem is.

Main Focus of the Reform
(e.g., institutions, curriculum, certification etc)

Purposes of the Reform, Experiment or Policy
What are the main purposes of the reforms?
What are the problems to which the reforms are responding?

Concept of Parity of Esteem
Is parity of esteem a major focus of the reforms?
How is parity of esteem being approached?
(for example, by means of making academic and vocational programmes equivalent, improving the attractiveness of vocational education or through some other approach)

Problems of Equality
The extent to which equality was an aim of the reform/reforms.

Progression
How do the reforms promote the progression of the learner, whether vertically through qualifications levels or horizontally between different forms of study (school- or college-based on the other hand and work-based on the other) or by focusing, instead, on transitions between school and work or school and further or higher education?

Scope of the Reform
How inclusive is the reform? Does it embrace all sections of the age group, does it include different age groups and those on work-based as well as on school-based routes?

Equivalences/Recognition
How far is the reform nationally recognised?
Is it a fully national reform or as yet only an experiment or is it a local or regional initiative?
Is it recognised by different groups such as employers and higher education? Does it use particular forms of recognition such as "equivalences", levels, and size of units that apply to more than one qualification/route?

Curricular Toolboxes/Knowledge
In what way is the curriculum a focus of the reform? Do the reforms encourage new types of knowledge, new ways of combining different types of knowledge, new ways of recognising learner knowledge?
Are areas of knowledge shared across different pathways or routes?

Teaching and Learning Arrangements, Pedagogy
How far do the reforms encourage new forms of learning and teaching styles, collaboration between teachers in different areas, experiments in pedagogy?

Certification and Course Structure
How far is certification the focus of the reforms and in what ways is it used to relate academic and vocational education?

Assessment
Does assessment reform play a role in the reforms?
Are common assessment methodologies or new approaches to assessment being introduced that encourage new forms of learning?

Student Choice and Guidance
Is more emphasis being placed on student choice in the reforms?
How far are greater opportunities for choice complemented by new roles for guidance counsellors?

Role of Teachers/Trainers
How are teachers (i) prepared for and (ii) involved in the reforms?
Are the reforms supplemented by in-service development programmes?

Social Inclusion
Do the reforms include and promote the achievement of all types of learners? If they do, by what means?

Networking and Organisational and Institutional Aspects
Do the reforms involve new relationships between (a) schools/colleges, (b) schools/colleges and businesses?

Effect on the Labour Market/Responsiveness to the Labour Market
How far are the reforms designed as a response to labour market changes?
Are the reforms intended to bring about changes on the labour market (e.g., more or less regulation)?

Dominant Dimensions
Which innovation (or good practice) within your national reform strategy do you think is the main driver of change?

Additional Comments
Any additional comments.

Mapping the Austrian Reforms in Vocational Training[1]

Walter Blumberger (IBE) *and Jörg Markowitsch* (IWI)

	Apprenticeship scheme (dual system	***Berufsmatura***	***Fachhochschulen* (polytechnics)**
Main focus of the reforms	Reducing training costs Deregulation of the terms and conditions of employment Structural modernisation Autonomy of vocational schools Curriculum innovations	Introduction of a new certification procedure for the dual system, which gives students access to higher education	Broadening tertiary education by introducing new institutions *(Fachhochschulen)*
Purposes of the reform	Increasing the attractiveness and flexibility of vocational training Closer adaptation to the labour market	Increasing the attractiveness and flexibility of vocational training	Increasing the proportion of tertiary education graduates and improving their standard
Concept of parity of esteem	See *Berufsmatura*	Parity of esteem is a major focus of the reform, as the introduction of the *Berufsmatura* shows. The *Berufsmatura* is theoretically the dual-system equivalent of the ordinary *Matura*.	—

Table continues

[1] As there are several reform efforts underway in Austria (such as the introduction of the *Berufsmatura*, the introduction of new occupations, financial encouragement to the dual system, the introduction of polytechnics), we preferred mapping them one after another.

(continued)

	Apprenticeship scheme (dual system)	*Berufsmatura*	*Fachhochschulen* (polytechnics)
Problems of equality	See *Berufsmatura*	Graduates from the dual system are already able to enter the university by passing a special Matriculation Examination *(Studienberechtigungsprüfung)*, but only a few people take advantage of this possibility. It is assumed that the success of the *Berufsmatura* will also be limited.	Polytechnics have a good reputation as vocational education institutions, but in some important ways they are not equivalent to universities. For example, in the Civil Service university graduates are given higher positions than polytechnics graduates.
Progression	—	—	—
Scope of the reform	The reforms concern the national system as a whole; they cover all age groups from 16 upwards. They are basically work-orientated and their focus is on work-based learning. The reforms will not affect the academic track.		
Equivalence/recognition	Widely discussed in public	Widely discussed in public	Widely discussed in public

Table continues

(continued)

	Apprenticeship scheme (dual system	*Berufsmatura*	*Fachhochschulen* (polytechnics)
Curricular toolboxes	School autonomy Grouping of job profiles New job profiles Modernisation of job profiles Relaxing labour and social law to improve the productivity of apprentices within a company	Vocational training is enriched by academic subjects	Generally speaking, key qualifications, social and methodological competencies and practical knowledge are stressed (e.g., project-orientated learning, computer-aided learning and teamwork). There is no sharing of areas of knowledge across different routes.
Teaching and learning arrangements, pedagogy	No significant changes	No significant changes	There are no great changes in pedagogy. The reform will not touch teaching methods. (See also the issue above.)
Assessment	Doubts about whether reducing training costs will have the desired effect and whether a deregulation of the terms and conditions of employment is justified New job profiles will create new training and job chances	—	No changes to date
Student choice and guidance	—	There are specific information meetings, but no large-scale campaign	The introduction of polytechnics provides a greater variety in study programmes. The reforms do not include support for guidance counsellors.

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Table continues

(continued)

	Apprenticeship scheme (dual system)	*Berufsmatura*	*Fachhochschulen* (polytechnics)
Role of teachers	The reforms will have no practical consequences for teachers and trainers.		
Social inclusion	—	—	—
Networking and organisational aspects	—	—	Polytechnics have strong links with enterprises because unlike in universities, practical training in enterprises is an obligatory part of the studies
Effects on the labour market	General effects cannot be foreseen but a closer adaptation to labour market needs is expected. Apprentices may become direct competitors of other employees because of their lower labour costs.	Cannot be foreseen	The reforms are directly related to labour market changes. Polytechnics have been introduced to provide a shorter, practical, business-orientated higher education. The first graduates have not had any problems in finding a job. All labour market experts predict that polytechnic graduates will have good prospects. It is expected that university drop-outs will have more problems in finding a job.
Dominant dimension	—	—	—

Mapping National Strategies - England

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Focus of the Reform

In the case of England (and Wales) the focus of the mapping is on the development of a more coherent national qualifications framework, based on the Dearing Report (1996) which made proposals for bringing academic and vocational qualifications into closer alignment. It seems likely that the Dearing proposals, which suggested a rather weak concept of linkages between academic and vocational qualifications, will be slightly strengthened as a result of the round of consultations to be launched by the new Labour Government. There is, however, little sign of any decisive movement to a unified system.

Purposes of the Reform

The purpose of the Dearing reforms is to encourage more students to mix academic and vocational qualifications or part-qualifications within individual study programmes at 14+ and 16+. It is hoped that making the tracked system more flexible will encourage more students to reach higher achievement levels, especially in key skills, and raise the status of vocational education.

Concept of Parity of Esteem

Since the 1991 White Paper which announced GNVQs, when academic and vocational qualifications were described as "separate and equally valued", the concept of parity of esteem has shifted towards a notion of a formal "equivalence" between different qualifications within a national framework. Policies now under consideration which are designed to promote parity include:

- allocating all qualifications within a common system of levels and adding new (lower) levels;
- breaking long courses into a more common system of short courses and units;
- developing a common grading system across academic and broad vocational qualifications, though excluding work-based NVQs;
- making key/core skill units available to students taking different qualifications;
- developing an overarching certificate or diploma to include all qualifications and key skills.

Problems of Equality

Provision of post-compulsory education in England has been pervaded by inequalities which are the product of divided courses, a lack of commonality in the qualifications system, a reluctance to introduce a credible common form of certification and the continued differences in status and resourcing between institutions. Possible ways of promoting greater equality are currently being explored more through funding regimes than through qualifications and curriculum reform. A recent report has recommended shifting resources in further education towards provision for disadvantaged groups (the Kennedy Report on "Widening Participation" (1997)).

Progression

One of the aims of the reforms is to promote progression through the levels of the National Qualifications Framework in each of the three tracks (A levels, GNVQs and NVQs). It is hoped that this will be achieved

by encouraging students to compete for their course of study, offering lower-achieving students new certification opportunities (e.g., the new Advanced Subsidiary which is equivalent to one year of an A level), and exhorting admissions tutors in further and higher education to recognise the equivalence of academic and vocational qualifications. The main emphasis is on vertical progression within the National Qualifications Framework (it currently contains only about 50 per cent of all existing qualifications) rather than on lateral progression across different sections of the education and training system (e.g., from full-time to work-based learning and between different tracks and specialist routes).

Scope of the Reforms

Officially the scope of the Dearing reforms included both education-based and work-based routes and though the review's brief was qualifications for 16-19-year-olds, some reference was also made to lifelong learning. In practice it is less clear that this broader scope of the reforms will be maintained. First, there is a danger that NVQs and work-based learning will become insulated from academic and general vocational qualifications; the latter appear to be coming closer together and government departments and regulatory and certification bodies are being re-organised on this basis. Second, the Kennedy Report on "Widening Participation" could lead to the formation of an "adult learning pathway" separated from the main 14-19 qualifications system. As a result, the scope of the reforms discussed could be limited and, at the same time, lead to new divisions.

Equivalences

The official policy is that the equivalence of different qualifications is expressed through the National Qualifications Framework. Practical recognition of equivalence is, nevertheless, more problematic. First, the system remains essentially voluntary and both universities and employers continue to treat academic qualifications as superior to vocational ones. Second, the alignment of different qualifications is offset by distinctions in assessment and pedagogy between academic and vocational qualifications.

This tends to reinforce status differences. Third, recognition of equivalence is affected by supply and demand for study places and jobs. If supply is restricted then selection is strengthened and formally equivalent qualifications are not treated as equal.

Curricular Approaches

The focus of current reform proposals is on mixing elements from different qualifications rather than on reforming the curriculum. The exception to this is the emphasis on key/core skills and on proposals that all students in the post-compulsory phase should acquire key skills. However, the approach to key skills is narrow, being largely restricted to numeracy and the ability to use communication and information technology. The assumption is made that these basic skills are more demanded by employers than the higher-level skills that those working in leading-edge companies will need in the future.

Teaching and Learning Arrangements, Pedagogy

The focus of new styles of learning based on assignments and the development of key skills has been largely confined to students taking broad vocational qualifications (GNVQs). Similar developments in the academic track, facilitated by the modularisation of A levels, have been limited by a greater emphasis on externally assessed end-of-course examinations.

Certification and Course Structure

Changes in certification have been at the heart of the reform of post-16 education and training in England, though this nas been limited to breaking down existing qualifications into six- and three-unit blocks. However, new methods of funding further education colleges could become an important influence promoting the adoption of a unitised approach to certification in the system as a whole.

Assessment

It has long been recognised that reforms in England and Wales since 1980 have been assessment-led and this tendency has continued. The most recent emphasis has been on increasing the proportion of external assessment and achieving greater assessment consistency in all qualifications. There has been little progress on developing innovative approaches that might promote student motivation and the acquisition of new skills and knowledge.

Student Choice and Guidance

Prioritising the extension of student choice has been a major feature of all recent reforms though this has not led to the hoped-for demand for more mixed forms of study. The guidance function (by careers officers) has been largely confined to allocating students to qualifications tracks and offering them information on different destinations.

Current proposals to divide qualifications into short courses and units will make the system more flexible. However, if the opportunities provided by this greater flexibility are to lead to more coherent programmes of study, teachers will need to attach increased importance to guidance, both through developing their own guidance expertise and through making closer links with guidance specialists.

Role of Teachers

The main emphasis on professional development during the reforms has related to improving the assessment and quality assurance skills seen as necessary for the delivery of GNVQs. There has been no attempt to restructure the teacher training system to take account of the new demands that are likely to be made on teachers as a result of the reforms.

Social Inclusion

The English system of post-compulsory education has traditionally paid very little attention to the problems involved in the social inclusion of a significant section of young people in each cohort; the assumption has been that in a selective system, it is normal that the majority should be excluded. More recently there have been heightened concerns about exclusion and a number of new policies designed to cope with it have been introduced, such as a new lower level within the 14+ qualifications system, proposals to target funding on low achievers and the Government's new Welfare to Work Programme for unemployed 18- to 25-year-olds.

Networking and Institutional Aspects

The English system is still dominated by strong competition between institutions. In the absence of new funding and with growing pressures to compete, the networking relationships which developed in the 1980s as a result of targeted funding such as TVEI (the Technical and Vocational Education Initiative) have largely declined. The new Government is on record as being committed to promoting greater collaboration, but the mechanisms have yet to be elaborated.

Effect on the Labour Market

The reform proposals continue to assume voluntarism on the labour market. In other words, employers remain free to employ whom they will, with or without offering any training, and the range of courses available reflect a response to the market for students, not to the future demands of the labour market.

Dominant Dimensions

Three aspects of the reform have dominated the recent period. The first has been the focus on certification and the introduction of GNVQs (especially in school Sixth Forms). The second has been the introduction of new approaches to funding further education and, more recently, the search for a common method of funding across all aspects of education and training from 14+. The third aspect, the implications of which are not yet clear, has been the merger of government departments (for Education and Employment), of the regulatory bodies for academic and vocational qualifications and of the awarding (or certificating) bodies. The motive for the latter development has been a rationalisation of qualification standards rather than any attempt to create a more unified system.

Additional Comments

Since the election of the new Government in May 1997, it is becoming clear that the movement towards a more linked system will continue. Whether strong strands of unification are to be developed and whether the system eventually becomes more fully inclusive will be matters of intense policy debate during 1997 and 1998.

Mapping National Strategies: The Strategy of Mutual Enrichment and the Case of Finland

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Main Focus of the Reform

The main focus of the Finnish reform is the introduction of horizontal flexibility between vocational and academic pathways. This involves

- making the curricula more flexible by increasing freedom of choice and giving students more autonomy in the construction of their own study programmes by allowing them to combine studies from both vocational and academic upper secondary schools and
- organizing local-level cooperation between these two types of educational institution.

Another focus is the introduction of vertical flexibility by increasing the number of pathways giving access to higher education.

Purposes of the Experiment

The Problems to Which the Reforms are Responding

The Finnish upper secondary education experiment and the experimental Finnish polytechnics (AMK institutions) were launched to try out ways of developing post-compulsory education. The aim was to address the problems besetting the Finnish educational system as assessed by the Ministry of Education at the end of the 1980s (Ministry of Education, 1989): prolonged study times, students who drift horizontally through the

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upper secondary education system, high drop-out rates and overlapping vocational and academic syllabuses. The reform was also expected to respond to the requirements of working life and its emerging new job profiles through the creation of flexible occupational qualifications.

Concept of Parity of Esteem

The extended student choice introduced into the curricula

- increases vocational students' opportunities to gain access to higher education and includes more theoretical subjects in their study programmes and
- allows academic students to study vocational subjects together with their primarily academic studies and thus include practical skills in their study programmes.

Vocational and academic programmes are acknowledged as equivalent and students are credited for parallel or earlier studies in other upper secondary education institutions.

Problems of Equality

Students' access to higher education will depend on the contents of the study programmes that they construct. Accordingly, more student guidance will be needed.

Progression

Students' progression within the educational system is promoted by lowering barriers between different types of school and different levels of the educational system:

- vertically by increasing students' opportunities to find a pathway that enables them to continue in further or higher education and by allowing students to take studies offered by higher education institutions as a part of their upper secondary study programme;

- horizontally by allowing students to combine studies at different institutions, vocational and academic.

Scope of the Reform

On the whole, 85-90 per cent of each age cohort in Finland continues its education at either the general upper secondary school or at a vocational school. The upper secondary education experiment is being run in 16 localities, comprising 134 upper secondary schools and 34,600 students (Numminen et al., 1997). When the experiment started in 1992, it was calculated that it included as much as 12.2 per cent of the starting places offered in general upper secondary schools and 20.5 per cent of the starting places offered in vocational schools (specialization lines are not included in the calculation) (Numminen & Piilonen, 1992).

Equivalences/Recognition of the Experiment

The legislation (391/1991) enacted to guide the experiment defines the extent of student choice allowed in curricula and lays down how different qualifications make their holders eligible for higher education. On the basis of this law, vocational and academic institutions can recognize 30-40 per cent of studies taken at other educational institutions as a part of the qualifications that they themselves grant. In each concrete case, the limit is calculated on the basis of a modular course structure. The law also defines how completed qualifications shall be approved by further and higher education institutions.

The National Development Plan for Education and University Research for the period 1995 - 2000 (Ministry of Education, 1995) stipulates closer collaboration between general upper secondary schools and vocational institutions.

The bill on the organization of Finnish education given to Parliament at the end of May 1997 proposes that

- organizers of vocational and academic education will have to cooperate on the local and regional level and that

- students will have the right to choose courses across institutional boundaries and to be credited for these studies when their contents can be regarded to represent the same level of education as their studies at their primary upper secondary education establishment.

Curricular Toolboxes/Knowledge

The reform encourages sharing areas of teaching and knowledge across different pathways and combining different types of knowledge within the broadened range of student choice and increased degree of flexibility incorporated into curricula. Teachers are also encouraged to adopt new conceptions of learning.

Teaching and Learning Arrangements, Pedagogy

The experiment supports in-service teacher training to encourage teachers to renew their teaching methods and contents. The progress of this aspect of the experiment has been followed through surveys. The number of courses combining different subjects in open learning situations has been increasing year by year during the whole experiment. In 1995 there were 40 such courses (Numminen, 1997).

Certification and Course Structure

Inter-institutional student choice in curricula is acknowledged in certificates. Students are given a separate certificate for their studies at other than their primary institution, or studies completed at other institutions are marked separately in the certificate of the qualifying institution.

Assessment

The assessment methods used in the experiment are common across the Finnish educational system. The recognition of equivalencies

between courses taken at vocational and academic institutions has raised questions about aligning different assessment scales. These problems have in most cases been solved by defining a format for equivalence. To mention an example, a mark of three (on a 1-5 scale where 5 is the highest mark) awarded by a vocational school might be equivalent to a mark of seven (on a 4-10 scale where 10 is the highest mark) awarded by academic schools. Some upper secondary schools have marked free-choice courses taken by their students at other schools simply as "accepted, passed".

Student Choice and Guidance

Student choice is a central feature of the experiment. Guidance counsellors are given opportunities to participate in in-service teacher training. Groups of students have been trained to tutor other students. Information services based on new technologies such as the Internet are being developed to serve as students' information bases about education available locally and to allow them to apply to courses offered by other schools. Decisions about allocating more resources to counselling are made on the local level.

Role of Teachers/Trainers

Teachers take part in in-service teacher training on a voluntary basis; how much such training is available depends also on local funding. A national leadership monitoring the experiment designs and offers in-service training programmes in collaboration with teacher in-service education units. A minimum level of participation in the experiment requires a teacher to instruct students from other schools during normal classes. Maximum participation would also entail taking part in the leadership of one's regional unit, in teachers' developmental groups for cooperation in particular areas of teaching and learning within the unit (scheduling, information services, new courses, counselling and guidance, new methods of teaching assessment etc) and in in-service teacher training given to help teachers to adopt new teaching methods.

Social Inclusion

The curriculum framework introduced by the experimental legislation allows flexible arrangements, which can be used to encourage different types of learners. However, interpreting the framework is in the hands of local decision-makers.

When the experiment was launched, a new concept in upper secondary education qualification, combinatory studies, was discussed and introduced to give high achievers and low achievers the possibility to construct their qualification within an even larger margin of student choice than what is generally available in the experiment. However, the new qualification proved a failure.

Networking and Organisational and Institutional Aspects

Promoting new links between educational institutions is a central element of the experiment.

Responsiveness to the Labour Market

Before the launching of the experiments the 1989 assessment of the Finnish educational system (Ministry of Education, 1989) explicitly argued that upper secondary education must be developed to meet new occupational requirements (arising from structural changes on the labour market, new technologies, new ways of organizing work).

Dominant Dimensions

The dominant dimension of the Finnish upper secondary education experiment is inter-institutional cooperation.

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Mapping National Strategies - France

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Focus of the Reform

The main focus of the reform is on certification: the *Baccalaureat professionnel* was created in 1985 as a new level of certification, Level V.

Purpose of the Reform

The reform was responding to a lack on the labour market: it is a way of integrating training with business; the qualification was named *pole d'excellence*.

Concept of Parity of Esteem

The *Baccalaureat professionnel* gives the title of *bachelor*. The different baccalaureate programmes are not equivalent, but they are more attractive and they have common features in their general and vocational contents. Training at an enterprise lasts between 14 and 24 weeks.

Problems of Equality

The aim is to give those thus qualified access to the labour market, but it is also possible for those with the *Baccalaureat professionnel* to

enter higher education (*Brevet de technicien supérieur*) and university or a University Institute of Technology (*Institut universitaire de technologie*).

Progression

The reform promotes the progression of the learner; during two years after a *Brevet d'enseignement professionnel* or after a *Certificat d'aptitude professionnel*, after the *lycée professionnel*, level V. Other students who have dropped out of the *lycée general* can undertake the training again after three years at work.

Scope of the Reform

The reform is national; it is recognised by all groups (employers and higher education).

Equivalences

The certification is based on a *referentiel* with vocational, technological and general competencies.

Curriculum Approaches

The reform encourages new forms of learning and new teaching styles involving collaboration between teachers in different areas.

Assessment

New assessment methods play a role in the reforms, in contents and in the forms of learning.

Student Choice and Guidance

As regards student choice teachers are the students' real guidance counsellors. The choice being selective, students are proud to be chosen to do a *Baccalaureat professionnel*.

Role of Teachers

The teachers were prepared for the reforms through the publication of policy notes and through training in the *Instituts de formation des maitres*. A new teaching qualification was created, equivalent to that required from those working in the general *lycées*.

Social Inclusion

The reform includes and promotes the achievement of all types of learners.

Networking and Institutional Aspects

The reform involves new relationships between schools and businesses; business people teach and monitor students during their on-the-job training and participate in certification.

Effect on the Labour Market

The *Baccalaureat professionnel*, created as a response to the labour market, alters the relations between school and business and industry.

Dominant Dimensions

The learners want increasing proportions of general knowledge, i.e., mathematics, French and foreign languages and philosophy.

Additional Comments

The role played by the enterprise is very central and the collaboration between teachers and enterprise trainers is always difficult and dependent on the personal qualities of individual teachers.

Mapping National Strategies - Germany

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Focus of the Reform

The Brandenburg Model Project focuses on searching for new forms of furthering parity of esteem between general/academic education and vocational education and training. It is important to note here that the Schwarze Pumpe reform project in Brandenburg is not part of a national reform scheme, but a single model experiment. Its purpose is finding out whether this new form of combining vocational and general education works so that it could be transferred to other German regions and states (*Länder*). Indeed, some new model projects with similar aims have been designed and some have already been launched, partly as a result of transfer from the Brandenburg model, and partly independently - e.g., in Bavaria, where the aims are slightly different.

Purposes of the Reform

The purpose of the reform is to give the students double qualifications or qualifications with dual options, that is, a certificate that allows them either to enter the labour market as formally acknowledged skilled workers or to proceed to higher education, in this case to the polytechnics (*Fachhochschulen*). This is achieved by integrating vocational education and training within the German dual system by combining apprenticeship training and vocational school studies with education in the upper secondary technical school (*Fachoberschule*). The latter is normally open to graduates from the dual system (who have gained a certain

minimum level of marks from vocational school) and provides students, during one additional year of courses, instruction in academic subjects (German, mathematics, English and the student's chosen field of technology). The Model Project makes no formal separation between these two kinds of education, and the normally consecutive phases are combined to one phase, the length of which is the same as for students undertaking the same studies in the regular dual system. That is, the whole course of studies required to enter polytechnics is shortened by one year during which students normally have to attend the upper secondary technical school.

Concept of Parity of Esteem

The assumption is that the higher esteem enjoyed by academic subjects is only a product of bourgeois ideology. For, especially given the new production concepts and customer orientation adopted in the crafts, the qualifications required for recognition as a very experienced skilled worker are not, in principle, basically any lower than those of many professionals who are graduates from higher education. Parity of esteem is at the very least a possibility, to be fostered by further education, open to a responsible skilled worker running, for example, a flexible production island within a modern factory. It is true that additional instruction in the above-mentioned academic subjects is also provided in the Model Project. However, the focus of the reform is on vocational enhancement. Enhancing the quality of vocational education and training in particular is here assumed to lead to a level of education equivalent, and in some respects even superior, to that achieved by a graduate from the *Gymnasium*, the academic/general track of German upper secondary education.

Problems of Equality

Problems of equality would become prevalent if and when the Brandenburg Model Project could be extended so as to offer students a similar programme in a number of regions. Currently, the condition of admission is completion of the *Realschule*, the middle track of the German three-track-system of lower secondary education, a requirement that excludes about a third of an age cohort, the graduates from the *Hauptschule*

(the lower track) as well as, of course, the drop-outs. In addition, the Model Project offers access only to the polytechnics, still lower in status than universities. There are moves towards an acknowledgement of the certificate of the *Fachoberschule*, and thus of the Model Project, as being equivalent to an university entrance certificate (*Abitur*). However, there are also strong countertrends.

Progression

There are tendencies, within the enterprises and in entrepreneurs' organizations, supported by the unions, to strengthen the progression routes within enterprises for graduates from the dual system. The idea is to realize a "true meritocratic" system, that is, a system where the "real merits" (from the point of view of the enterprise) count for more than the "formal merits" earned in the (higher) education system. On the other hand, because of academic drift and the ample supply of higher education graduates for work assignments handled so far by experienced skilled workers, there is also a strong countertrend which could even weaken skilled workers' progression opportunities. Therefore, the Model Project can be viewed as a compromise: its aim is to enhance vocational education and training in order to further its graduates' progression within enterprises, and, at the same time, to give them access to higher education. The latter option might make the dual system more attractive to high achievers by thus giving them dual options for their further career.

Scope of the Reform

The present scope of the Brandenburg Model Project is very limited. However, because it is seen as a potential model for the whole German vocational education and training system, it is possible to envisage its widening into a national pathway of its own covering all occupations included in the dual system. Thus it would constitute a special form of the linkages approach, in so far as the tracking of the upper secondary education system as a whole would not be abolished. This would establish a rather strong linkage between the vocational and the general/academic tracks, in this case with the vocational track as the dominant pathway.

Equivalences

Because the German system is still strictly regulated as far as labour market and university (as well as polytechnics) entrance is concerned, the two options earned within the Model Project are completely equivalent to those awarded in the regular system. Further, because the Model Project is based on creating linkages through the integration or at least combination of the pedagogical aims of the two existing tracks, the question of mutual equivalence of courses does not arise. The approach chosen for the Model Project is not a systemic approach. However, if and when the scheme will be extended to the whole German vocational education and training system, new questions of equivalence will certainly arise.

Curricular Approaches

New curricular approaches are at the heart of the whole experiment. The aim is to bring about the complete transformation of the curricula for work-based learning, vocational school and upper secondary technical school. So far they have been designed according to the way that these tasks are solved by the students through the logic of content. This means building the whole architecture of knowledge like a usual building, stone by stone, that is, bits by bits of subject matter, from the ground up, starting with the simplest facts. Evidence from learning psychology shows that this is not the way in which a human being learns. Rather, they learn mostly by reflecting on their own practice, which is rather complex from the start, even in superficially rather simple working tasks like drilling. The "reflective practitioner" (Schön) is an example of what should be aimed at also in training skilled workers.

The new curricula represent, therefore, a structure of learning and working tasks which fosters reflection on the preconditions of effective learning and successful working performance. The difficulty level rises as task follows task, but even the simplest assignments are formulated so that they already exemplify something of the complexity of real working life.

In the ideal case, practical work in the factory and courses at vocational school as well as at the upper secondary technical school should all contribute, together and simultaneously, to the students' solving of these tasks, "learning and working assignments". This ideal has, however, not been

attained as yet in the Model Project. Nevertheless, important steps have been taken in this direction.

Teaching and Learning Arrangements, Pedagogy

To teach according to curricula based on learning and working assignments requires a completely new definition of teaching and a dramatic change in teaching style. This holds equally true for workplace trainers and for vocational and upper secondary technical school teachers (the latter being often the same persons). Learning is centred around successfully completing tasks in working groups and should realize the idea of self-directed learning. Teachers and trainers should act chiefly as facilitators of the learning process. Teaching as the presentation and transferring of knowledge in a systematic way is not excluded but should only take place if and when the group of learners feels that it would be useful in completing the task. To remind students to reflect on the preconditions of completing their tasks the teachers should also provide incentives by asking students relevant questions while they perform the tasks. A major means of fostering reflection is formulating the tasks so that there is no single solution. Working groups are encouraged to search for alternative solutions, whose pros and cons may be discussed in the whole class. This means employing the "shaping approach", encouraging students not to take any given solution to a real-life work task for granted. Rather, they should be able to criticize the existing forms of work organization and the associated technology. In addition, they should be empowered to think out alternative solutions. To be able to do that they need to gain a thorough grasp of the structure and the preconditions - including societal boundary conditions - of their work.

Certification and Course Structure

Because the Model Project is run within the boundary conditions of the regular system of upper secondary education, there are no changes in certification procedures and only minor changes in course

structure. Thus, students are still separately certified for the successful completion of their apprenticeship training (including vocational school) and of the upper secondary technical school, which entitles them to enter polytechnics. This dual certification scheme is, of course, in conflict with the whole philosophy of the experiment. All players in the field directly connected with the experiment, that is the school, the enterprise and the scientific evaluation group, have tried to persuade the relevant authorities to change these circumstances. However, the authorities, both the Council of State Ministers of Education (*Kultusminister-Konferenz*), responsible for the school, and the Chamber of Commerce and Industry, responsible for the enterprise, have been reluctant to open up new certification possibilities. The reason is that such a move would, in the end, affect the whole system nationwide, and the responsible bodies are so far not prepared to take such a decisive step. Here, of course, the question of the overall equivalences of the tracks within the system as a whole comes to the fore.

Assessment

Assessment procedures for the final certification have not been changed because the requirements of the regular vocational training system have to be fulfilled. This of course completely contradicts the whole approach to learning and teaching applied in the Model Project. However, there have been considerable changes in the assessment procedures used during the course of studies. What is at stake is not assessing students' accumulation of knowledge, separated into different subjects, but their ability to perform complex tasks and solve interdisciplinary problems. There is a great deal of experimenting with different assessment methods. Apart from that, it is interesting to note that the students also succeeded in the formal examinations. They actually attained better grades than the students within the regular system. This is notable because the learning and teaching methods used in the Model Project are not directly aimed at preparing students for formal examinations as is the case elsewhere.

Student Choice and Guidance

Because attending the course of studies in the Model Project is geared to regular apprenticeship training, there is literally no student choice at all, once a given apprenticeship has been chosen before entering the dual system. Under the present circumstances, the requirements laid down for an individual apprenticeship as well as for the upper secondary technical school have to be fulfilled at the same time. This has narrowed the students' possibilities of choice down to zero. On the one hand, this is certainly a condition very unfavourable to students who come to think about new fields of interest during their 3.5-year course. On the other hand, employing the above-mentioned shaping principle means encouraging students to take into account, within their chosen field, all kinds of factors which might be relevant for the development of working life. Nevertheless, continuing the reform is a big challenge. This challenge can be faced only by changing the occupational divisions within the dual system itself. The Accompanying Research Group from the Institute for Technology and Education has developed a new system of *Berufe* where the work tasks included within a single *Beruf* are much wider and designed to be thought of as changing dynamically over time. Adopting this system would considerably extend students' range of choice during their apprenticeship.

Role of Teachers

As has been said in the chapter on teaching and learning arrangements and pedagogy, the role of teachers and trainers has to change dramatically. As a result, they need a great deal of further education using completely new methods. The usual form taken by teachers' continuing education, which consists of attending short-time courses directed by supervisors or educationalists, has proven to be inadequate even in the case of minor changes. When it comes to enabling teachers to take on their new role as facilitators of self-directed learning processes, the in-service training and professional development of teachers in Germany must itself be remodelled on the principle of self-directed learning. In some German states (*Länder*), notably in Brandenburg, this new style is already being introduced. However, because of long-established traditions there are still very formidable obstacles to overcome.

Social Inclusion

The Brandenburg Model Project is in fact targeted at medium achievers amongst the students, served by the provision of a linkage between the vocational dual system and the academic *Gymnasium*. Thus the question of social inclusion is not raised. Facing this problem is left to the regular form of the dual system which, up till now, has achieved a considerable degree of social inclusion. In this way, more than 90 per cent of an age cohort are included in upper secondary education, even if quite a number of the apprenticeships still represent only rather low requirements, especially in some crafts (*Handwerksberufe*), but by no means all of them. The Model Project is, however, not exclusive in the sense that only a selected section of the medium-level achievers would be able to complete the course of studies. This has been shown by the results of the examinations. The assumption is that the new style of learning described above should enable students to perform successfully even if they find learning quite difficult under usual teaching conditions.

Networking and Institutional Aspects

School-enterprise networking is a prerequisite for successfully establishing a course of studies similar to the Model Project. In the latter case it was simple from the start because the vocational school and the enterprise, a large factory, are directly connected. But afterwards apprentices from small enterprises were also taken in. Transferring the Model Project to the standard environments of the dual system (apprentices from many small enterprises attending the same class) will make necessary much stronger links between schools and enterprises as well as between the individual enterprises. All the parties concerned must agree on the learning and working assignments. There are model experiments to form what are termed vocational education and training consortiums which aim exactly at what the term implies. It should be noted, however, that such experiments are still exceptional and that a large reform movement will be necessary to establish consortiums of this kind as the normal case in German vocational education and training.

Effect on the Labour Market

If the Model Project expanded so as to become one of the regular national educational pathways, this might have a considerable impact on the labour market. Because of academic drift, even medium achievers may tend to see the dual system as only their secondary choice. This reduces the societal esteem of the education provided in the dual system and could lead to a severe weakening of the system of vocational education and training as a whole. On the other hand, because of the difficulties that higher education graduates have in finding an adequate job there are also countertrends. Quite a number of *Gymnasium* graduates take up an apprenticeship after having earned their *Abitur*, especially apprenticeships in banking and insurance. The introduction of an upper secondary education offering dual options (entrance to the labour market or to higher education) seems to represent an adequate way of giving students more choice and flexibility.

Dominant Dimensions

The dominant dimensions of the Brandenburg Model Project are:

- furthering parity of esteem between vocational education and training and general/academic education;
- giving students the opportunity to earn double qualifications that give them the dual option of either entering the labour market or progressing to higher education;
- combining or even integrating the acquisition of practical skills and the associated theoretical knowledge;
- combining an apprenticeship with education in the upper secondary technical school, leading to two certificates;
- furthering general and, partly, even academic education by enhancing vocational education and training;
- stressing self-directed learning while students perform complex tasks and solve the problems that they involve; and
- overcoming the constraints of the narrow view typical of vocational education and training by employing the shaping approach, that is, looking for alternatives to current working conditions and exploring new possibilities in practice.

Additional Comments

These far-reaching aims have been, if only partly, successfully tackled at least within the Model Project. Although there are some moves towards transferring the philosophy of the Model Project to other locations, it remains to be seen whether a broader transfer will actually take place. The reform might well encounter formidable obstacles when it comes to widening its scope. On the other hand, the necessity of reforming the dual system is widely acknowledged, even if the aims of such a reform are the subject of a heated debate.

Mapping National Strategies - Norway
Reform -94

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Main Focus of the Reform

Reform -94 was originally meant as a structural reform but has since developed into a reform that focuses equally on content, in other words a curriculum reform.

Purposes of the Reform, Experiment or Policy

- The reform gives all 16- to 19-year-olds a statutory right to upper secondary education.
- A central goal was improving the structure of vocational education by ensuring vocational students' vertical progression in a three-year programme resembling that of general/academic students.
- Vocational study programmes will make students eligible for higher education. This is supposed to make vocational education more attractive.

Concept of Parity of Esteem

Reform -94 attempts to improve the attractiveness of vocational education through an improved structure of vocational study lines, including a commitment on the part of business and industry to create

better apprenticeship programmes. The reform also enables vocational students to acquire access to higher education.

Problems of Equality

A long tradition of inequality will not change overnight - it is a question of tradition, culture, politics and general attitudes among the Norwegian population.

Progression

Reform -94 has improved the possibilities for vertical progression, especially for vocational students. See above.

Scope of the Reform

Reform -94 embraces *all* 16- to 19-year-olds, including physically and mentally handicapped students.

Equivalences/Recognition

Reform -94 is a national reform.

Curricular Toolboxes/Knowledge

A major focus of reform work in the Norwegian educational system, starting with Reform -94, was to gain a complete picture of the entire educational system, resulting in a common core curriculum for primary, secondary and adult education issued by the Royal Ministry of the Church, Education and Research.

Teaching and Learning Arrangements, Pedagogy

The reform strongly encourages teacher collaboration within the same subject/discipline, as well as interdisciplinary collaboration, including collaboration across academic/vocational programmes. This requires project work with its primary focus on student learning rather than on teaching.

Certification and Course Structure

Vocational education after Reform -94 gives the students an opportunity to gain a double qualification, that is, a vocational certificate also giving, to students who take a particular programme, access to higher education.

Assessment

The reform entails a focus on new qualitative aspects of assessment, such as creativity, responsibility for one's own learning, independent work as well an ability and willingness to work together with other students. This will encourage new approaches to teaching.

Student Choice and Guidance

More emphasis is being placed on student choice, particularly on encouraging students of both sexes to make nontraditional choices as well as on inducing academically gifted students to choose vocational studies. This of course has great implications for the role of guidance counsellors not only in upper secondary but also in lower secondary schools.

Role of Teachers/Trainers

Significant efforts have been made to provide teachers with in-service training in connection with the reform. To date, two thirds of Norwegian upper secondary school teachers have received in-service training. Training provision has been weakest in the academic fields. A majority of teachers are well satisfied with the intentions and goals of their in-service training.

Research shows that in-service training increasingly focuses on the contents of the reform. Such topics as new working methods, project work, interdisciplinary approaches, new evaluation methods are becoming more and more central in in-service training as school structures gradually fall into place and it becomes possible to concentrate on the reform of teaching and learning.

The great increase in in-service training for teachers in connection with Reform -94 also affects initial teacher training. The ideas and new educational practices introduced with the reform are now having an influence on the contents and implementation of the new initial training programme.

We discuss teacher training in greater detail in Appendix 1 (Training Upper Secondary School Teachers: The Combined Initial Teacher Education Experiment at Agder College as a Contribution to the Post-16 Education project).

Social Inclusion

The reform includes *all* students between 16 and 19, thus representing full integration. This has created a new demand for special education competencies among teachers in the upper secondary school system.

Networking and Organisational and Institutional Aspects

- Ideally, the reform presupposes combined schools with both academic and vocational study programmes. Increasingly this is becoming reality. There is

also more cooperation *between* schools to ensure a wider range of choice for all students.
- See Appendix 2: Vocational Training in Schools and in Business and Industry (the 2+ Model).

Effect on the Labour Market/Responsiveness to the Labour Market

- To some extent, the reform is intended to reduce youth unemployment.
- The labour market is increasingly demanding school leavers with more theoretical knowledge with a view to ensuring greater flexibility and mobility within the workforce.

Dominant Dimensions

The main driver of change is undoubtedly the fact that Reform -94 caters for *all* students between 16 and 19, and that it is expected that every young person will also make use of this right.

Appendix 1

TRAINING UPPER SECONDARY SCHOOL TEACHERS: THE COMBINED INITIAL TEACHER EDUCATION EXPERIMENT AT AGDER COLLEGE AS A CONTRIBUTION TO THE POST-16 EDUCATION PROJECT

There are two types of postgraduate education for upper secondary school teachers in Norway, one programme for students who will be qualified to teach academic/general subjects, and another for teachers qualified for vocational subjects. Both programmes are one-year courses if studied full-time.

A teacher of academic/general subjects must have completed university or college studies. A bachelor's degree is a minimum qualification; many teachers have a master's degree. A teacher of vocational subjects needs a craft certificate or equivalent and a minimum of five years of vocational practice in addition to two years of vocational/theoretical education. The two categories of teacher had traditionally gained their qualifications through two separate courses of studies undertaken in separate environments.

We must bear in mind the situation in the former system of upper secondary education, which was divided in one school for academic and another for vocational education. Traditionally academic studies, and the teachers responsible for them, were held in a very high esteem among the population while vocational education, and the teachers entrusted with it, were far below in status.

The new upper secondary school that emerged after Reform -94 is a comprehensive school, and in vocational studies, especially on the Foundation Course level, the students are to spend approximately 26 per cent of their school time on theoretical subjects. In these subjects they are taught by teachers with a vocational background. This means that far more attention is now being paid to the view that Norwegian teachers, because of their separate education mentioned above, are poorly prepared for the new teaching and working conditions prevailing in the new upper secondary school. There is particular concern about interdisciplinary project work, which is a highly esteemed pedagogical approach to learning in the new curricula designed after the reform.

We assumed that teachers will be better able to cope with the demands laid down in new curricula if they have an opportunity to meet, study and work together before they start their work as teachers. By these means we hope to overcome some of the barriers between the two cultures that the two groups of teachers represent. At the same time we aim to prepare them for the collaborative work that they are expected to carry out. We also think that this might contribute towards equalising parity of esteem between academic and vocational education.

These are the main reasons why we are trying to combine the education and training of the two groups of teachers at Agder College.

The two categories of teachers spend the first half of their part-time studies together. The main content of this first year is a common curriculum in general pedagogics and didactics. Their supervised school practice takes place in groups, with both types of teacher represented in each group. They also carry out an interdisciplinary project in groups.

In the second half of their part-time studies the students are divided into two groups, with those studying to become academic teachers in one group and those aiming to qualify for vocational teaching posts in the other. This is because at this stage of teacher education each category of teachers is trained under a separate national curriculum. (Agder College, 1996)

We think that the reform of the Norwegian upper secondary school itself will help to promote parity of esteem between academic and vocational education and that the combined initial teacher education programme will strengthen this trend. We consider that the successful implementation of a school reform is possible only if teachers are well prepared for the new practical and pedagogical demands that the reform entails. They also need to be well informed about the basic ideas behind the reform and able to assume a positive attitude both towards themselves as groups, regardless of background, and to the changes reshaping the educational system.

We feel strongly that part of the reason for the lack of parity of esteem between academic/general and vocational education stems from the attitude of teachers towards each other as groups and towards the educational pathways that they represent. We think that a form of teacher education that brings these two groups of teachers together has a fair prospect of breaking down the negative attitudes and uncertainties that have traditionally coloured their relationship. Collaboration in a shared teacher training environment helps them to learn to know each other as persons and to

acquire an understanding of their respective educational and vocational backgrounds.

We hope that such a combined teacher education programme will give us a reasonable chance of building up mutual respect and more positive attitudes. If we succeed in this, the attitudes and knowledge acquired by these teachers-to-be through their training may generate a general parity of esteem within the educational system, and thus also convert public opinion to an equal regard for academic and vocational education.

EXPERIENCES SO FAR

In sum, we expect our part-time teacher education project to have both short- and long-term effects. In the long run we hope to contribute to a more down-to-earth as well as more relevant teacher education, but today we know as yet nothing about any such future effects. What we do know something about even today is how the students have experienced the programme and how they and their teachers have reflected on it half-way through the entire process.

Has the combined teacher training programme helped to bridge the gap between the two cultures of academic and vocational teachers?

Bridging the cultural gap was originally the main purpose of the experiment, not only to level out differences, but, more importantly, to draw on the potential implicit in the very differences themselves. Student reports seem to underline the value of the opportunity to meet, face-to-face, another type of teacher. Throughout the first half of the study programme, in the discussion section and in the process of planning the various tasks involved in this teacher education project, the participants have raised and made relevant a great variety of fundamental issues and questions.

It is hard to say whether this will help to improve the status of vocational lines of study. However, we have experienced a growing feeling of reciprocity which promises a better understanding of the fact that both groups have important common contributions to make to the Norwegian upper secondary school system. (Njerve & Sandvik, 1997)

Instructing this combined class of student teachers has also been a special experience for the college's teachers of pedagogy since most of the

students already have a teaching post. This has given the college a unique opportunity to focus on the relationship between theory and practice. The students have brought their own experiences from the classroom with them to the theoretical sessions at the college, discussing them and presenting them as examples. Correspondingly, the theories introduced during the lectures have been immediately transplanted to the classroom for testing or control. This situation has provided unique pedagogical opportunities that our students think may not have been fully exploited as yet. (Agder College, 1997)

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Appendix 2

VOCATIONAL TRAINING IN SCHOOLS AND IN BUSINESS AND INDUSTRY (the 2+ Model)

The Act Relating to Upper Secondary Education which regulates education in Norwegian schools, and the Act Relating to Vocational Training which regulates apprenticeship training, have been revised and harmonised with a view to achieving a more uniform education and better co-ordination between school-based and work-based education.

Under the main model for vocational training in Norway, represented by the trades covered by the Act Relating to Vocational Training, students spend their first two years (Foundation Course and Advanced Course I) at school and receive their final training (Advanced Course II) in business and industry. This is called the 2+ model. After the first two years, alternative programmes for training in business and industry can be followed:

- one year of training or
- two years of training combined with productive work.

The training establishment receives a government grant for its vocational training section, and the employers' and the employees' organisations take an active part in the work of estimating how many skilled workers are needed in the various areas and of securing the requisite number of apprenticeship places.

If a sufficient number of apprenticeship places cannot be ensured, the province must offer the trainees an opportunity to complete their training at school. Both those who take their final training at a training establishment and those who complete their vocational training at school take the same craft journeyman's test and receive a craft certificate when they have passed the test.

As for the process of selecting apprenticeship places, students may communicate their preferences to school authorities, who then send their applications to business and industry. Ideally, students will then receive several offers, but before contracts are signed there will be interviews by representatives of business and industry.

As of September 24, 1996, out of a total number of 9,481 students applying for apprenticeships under the guarantees of Reform -94, 6,408 or 68 per cent had acquired an apprenticeship place. In one area, the Province of Vest Agder (one of nineteen provinces in Norway), the situation was much better: 346 successful applicants out of a total of 423, i.e., 82 per cent.

Mapping National Strategies - Scotland

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Main Focus of the Reform

The principal focus of the reform is on the system architecture (see the chapter on unified system) - especially the rationalisation of courses and certificates, and the pathways that connect them, to form a unified system. The secondary focus is on aspects of content and process, especially assessment and to a lesser extent the curriculum and pedagogy.

Purposes of the Reform

Higher Still is a system-wide reform which has multiple purposes. These include:

- providing an "opportunity for all", and in particular making more suitable provision for students for whom existing academic courses are less appropriate;
- addressing deficiencies in existing courses and in their articulation and progression opportunities;
- rationalisation and coherence;
- addressing the perceived needs of higher education and the labour market.

Concept of Parity of Esteem

Parity of esteem is a goal of the reform but not a major one; it would not be perceived as an important goal by many participants (notably by those in schools rather than in further education (FE) colleges). However, the principal problems taken up by the reform are related to academic drift, and some concept of parity of esteem is a necessary part of any measure to oppose this. The Scottish concept of parity makes academic and vocational learning formally equivalent by giving them the same formal status in the unified system, by packaging and labelling them in the same way (i.e., common curriculum structure, assessment and certification), and by allowing the existing mixing of academic and vocational courses to continue.

Problems of Equality

The reform promotes formal equality of opportunity, but the achievement of equality may be affected by:

- selection criteria of universities and employers
- the differential ability of schools to offer opportunities under the reform

Progression

In principle the unified system will promote progression, both horizontally and vertically (and also between schools and FE colleges), as all courses will be part of a unified system. The main barriers may be

- where institutional self-interest impedes progression,
- where funding regimes impede progression, and
- at the boundaries of the system. In particular, progression from school to higher education (which potentially overlaps with courses in the new system) and from full-time education to work-based provision (not covered by the reform) are both problematic areas.

Scope of the Reform

All parts of the age cohort, and all ability levels, are covered, although participation is likely to remain well below 100 per cent. All ages from 16 upwards are covered. Work-based provision is not covered.

Equivalences/Recognition

The reform is national. The recognition of the system as a whole, and its certificates, is not in doubt; but the flexible nature of the system means that there is scope for employers and higher education to attach greater value to some subjects or levels than to others. The concept of equivalence does not apply, as there is only one certification system within Higher Still.

Curricular Toolboxes/Knowledge

Curriculum is a secondary focus of the reform (see above). Existing courses are being rationalised; in the process some are being substantially revised, while others are relatively unchanged. In principle, core skills are being promoted through the reform, although they will mainly be embedded in other subjects. The reform will maintain a situation where many students have mixed academic and vocational courses, and in principle give greater coherence to it.

Teaching/Learning Arrangements, Pedagogy

The effects are yet to be seen; they may be substantial but they will largely be a by-product of other aspects of the reform, notably of assessment changes and of the need for multi-level teaching (courses at adjacent levels taught jointly).

Certification and Course Structure

These are the principal focus of the reform (see above).

Assessment

Common assessment principles are being introduced for all courses, (e.g., combining internal and external assessment). It remains to be seen whether they will encourage new forms of learning.

Student Choice and Guidance

Students will have a very wide choice of courses under the new system. However, the emphasis of the reform has not been to extend choice so much as to increase the coherence of a system which already offered substantial (and, in the views of some people, excessive) choice. There will be a need for clear guidance about the opportunities available and (even more importantly) about the pathways that connect them and that lead from Higher Still to the labour market or higher education. It is proposed that all students will have a guidance entitlement but it is debatable whether adequate resources will be available to make this effective.

Role of Teachers/Trainers

Teachers have been involved in the consultative process. In-service development programmes are planned to prepare teachers for the implementation of the reform in 1999.

Social Inclusion

The new courses are available on five levels. The lowest of these, Access (itself subdivided into three bands), will cater for students

with special needs and learning difficulties, and for those (including some adult returners) for whom the higher-level courses might provide too demanding a starting point.

Networking and Organisational and Institutional Aspects

Delivering the unified system may require increased collaboration between schools and FE colleges (or between schools), although the form and extent to which this collaboration is possible and/or desirable may vary widely across areas. There is unlikely to be much impact on relationships between schools and industry.

Effect on the Labour Market/Responsiveness to the Labour Market

Higher Still has been education-led and has been less influenced by labour-market considerations than most of the other reforms discussed in the Post-16 Strategies project. Labour-market influence on Higher Still is largely indirect, mediated by the perceived need for (a) higher levels of attainment in general ("targets") and (b) core skills. The actual influence of the labour market will depend on how employers use the new certificates in the selection process; previously their behaviour has tended to support academic drift. Higher Still is not designed to have any direct effect on the labour market beyond improving the skills of its workforce.

Dominant Dimensions

The main drivers of change include:

- how selectors (especially in higher education) use the new certificates, and the "market signals" that they thereby send to young people entering the system;
- factors influencing the length of time for which people participate in the system:

the flexibility of Higher Still is only possible if people have the time to progress to the levels to which they aspire;

- the logistics of delivering a unified system in different institutional contexts;
- the evolutionary nature of the reform strategy, which may make it manageable but which also encourages pre-existing patterns of behaviour (and values) to persist.

Mapping National Strategies - Sweden

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Main Focus of the Reform

The Swedish reform is focused on a range of developments:

- more freedom for local authorities and schools to reach nationally determined goals;
- an upper secondary school with modular programmes and core subjects for all students;
- increased opportunities for students to influence their own education, i.e., more optional courses;
- a closer co-operation between schools and working life.

Purposes of the Reform, Experiment or Policy

The main purpose of the reform is to modernise secondary vocational education and to offer students more optional courses so as to enhance their motivation. Another purpose of the reform is to give vocational students academic competencies. The reform is a response to the changing demands of working life and society.

Concept of Parity of Esteem

In the upper secondary school all students study core subjects which give them general qualifications for entering higher education. All

students are able to choose the same courses regardless of study programme.

Problems of Equality

The older tradition that builds on a separation between academic and vocational education is still present in some schools.

Progression

More students are gaining higher education qualifications. Increased provision of work-based training sometimes improves student motivation. Motivation is also enhanced by optional courses.

Scope of the Reform

The reform includes the whole age group.

Equivalences/Recognition

The Swedish reform is fully national and covers the whole upper secondary school.

Curricular Toolboxes/Knowledge

There is a common curriculum for all upper secondary education programmes. It emphasizes general goals which are important in all upper secondary education. There is also a special syllabus for each course and special goals for each programme. The core subjects which are compulsory in all programmes give students general higher education entrance qualifications. They are necessary to gain admission to most university

degree programmes, and all students may take any missing required courses later. This means that students only need to complete one programme to be able to enter university.

Teaching and Learning Arrangements, Pedagogy

The reform encourages co-operation between academic and vocational teachers, but collaboration of this kind is only beginning. It also promotes a project-oriented pedagogy, including a more comprehensive perspective on learning contents and more responsibility for the students. The reform also stresses the need of work-based training.

Certification and Course Structure

The Swedish upper secondary school has no special school-leaving certificate. The students receive a final school report with marks on every course studied.

Assessment

An important aspect of the upper secondary reform is the creation of a new national assessment system based on a focus on educational outcomes (management by objectives). Each course is nationally defined as are the criteria for the new marking system. It is up to each school to decide how to reach the goals. That means that the reform encourages and enables those involved to look for new pedagogical solutions.

Student Choice and Guidance

The devolution of decision-making powers from the state to the local authorities has made room for more local programmes, more local lines of specialisation and more local courses. These changes, in combina-

tion with increased opportunities for students to choose between different schools, have made guidance counsellors' work more complicated as they need a wider overview of a much broader range of possibilities.

Role of Teachers/Trainers

It is up to the local authorities/schools to define their own in-service training needs. However, there are many institutions willing to help the schools in this process. They include the National Agency for Education, the teacher training colleges and the universities.

Social Inclusion

The reform includes the whole age group. The curriculum emphasizes that schools must support every student's development according to his or her interests and abilities. The Education Act also emphasizes that schools have to support students with special needs. There is also an ambition among the local authorities to organise the supply of programmes so that most students will be able to study the programme that is their first choice.

Networking and Organisational and Institutional Aspects

There is a trend towards more collaboration both inside schools and between schools. One reason why collaboration has become necessary is, of course, because schools increasingly need to find their own solutions on many levels. Consequently it has become necessary to discuss these different solutions. Schools often have a pronounced need to cooperate with working life, and they are also obliged by the curriculum to arrange workplace training.

Effect on the Labour Market/Responsiveness to the Labour Market

The reform has been designed in a dialogue with representatives of working life. The syllabuses for the courses that are for specific vocational programmes have been prepared in close collaboration with representatives of working life.

Dominant Dimensions

It is of course difficult to name the most important driver of change, but three important aspects may be mentioned:

- The compulsory core courses - a step towards a more comprehensive upper secondary school.
- Cooperation with working life, which will probably influence not only the contents of different subjects but also school culture as a whole. The traditions of working life will thus fundamentally change school traditions.
- Freedom of choice - the students, the teachers, the headteachers and the local authorities will make school operations more market-oriented.

Additional Comments

In the Post-16 Strategies project we have paid more attention to the differences between the strategies themselves than to the differences in their effects. The gap between the most and the least favoured students is growing in most countries, and the reforms have only created a new intermediate level in between these extremes. Do different reforms which support a "working-class elite" affect this gap? How does parity of esteem change in such a perspective?

Appendix III
A Case Study: A Report of a Study Visit From Germany to Norway

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We visited Kristiansand on September 11-15 to look at the Kvadraturen Upper Secondary School as well as at Agder College in order to learn about the Norwegian Reform -94.

In relation to our model the Norwegian reform appeared a bit unusual. It is meant to be a total reform that includes both the general and the vocational school system. It affects curricula, teaching methods and even teacher training. By contrast, our Brandenburg Model Project at Schwarze Pumpe is restricted to a single company and school and caters for a total of 96 students representing two occupations. It is meant to be recognised as an example for a large-scale reform of the German educational system. Against this background we could discover and describe many remarkable differences between the Norwegian reform and our model. Naturally, we are unable to consider here the whole Norwegian education system, and will restrict ourselves to the experiences we gained in Kristiansand.

We do see a certain similarity between the new system of vocational education in Norway and the dual system in Germany. Certainly, the Norwegian model is purely state-organised. The first two years of training are entirely school-based. After that the students should be trained in industry or workshops for one or two years. Because such training is not guaranteed by the state (enterprises have to offer places on a voluntary basis), students may be obliged to spend the last phase of their usually combined school- and workplace-based training at school. This reveals a great difference to the German system. The German dual system does to a degree depend on the voluntary actions of businesses, but the obligation to provide on-the-job vocational training is as binding as the obligation to offer school-based training. A business giving vocational training guarantees its training provision through a vocational training contract. In Nor-

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way, by contrast, some students will not be able to negotiate a contract with a company for continuing their reformed vocational training. Our Norwegian colleagues see this part of the reform as "risky" because apart from subsidizing those companies that provide training the state cannot do much about the situation. We have to wait and see whether the industry or workshops will be convinced about the advantages of vocational training organised along partly dual lines. The outcome cannot be measured at the moment. From our point of view it is clear that this step of the reform depends very much on the co-operation of the businesses. An ideally complete dual training programme concludes with a final test that the students take at school, but the businesses will also co-operate.

The Kvadraturen Upper Secondary School is constructed as a big unit, resembling a German *Kreisberufsschule* (district vocational school). The schools in Norway teach a wide range of different qualifications while there is no school that would train students only for one or two occupational areas. Such schools have a very mixed student body. It is an enormous challenge for specialised teachers to give theoretical instruction on all those different courses. We were very impressed about the way in which our colleagues were dealing with their task. Foundation Courses will probably be easiest to teach. There are 13 Foundation Courses for different subject areas, each combining what at first glance seem distinct occupations (e.g., hairdresser and taxidermist).

The ways of learning are organised by a course system that increases the number of occupations. The combination of subjects is fixed for each occupation, giving students no choice in the matter, or so it seemed to us, as a logical result of this high degree of specialisation. The vocational foundation courses of the German system allow only limited choice (e.g., in the first year of training for metalworking occupations a student who started as a metal cutter (*Zerspannungsmechaniker)* could continue his training as an industrial mechanic (*Industriemechaniker*)). The foundation course would prepare him for such a switch, but there is no choice in a strict sense because the system is based on the idea of increasing specialisation.

Reform -94 introduced completely new curricula designed by a state-commissioned developing group that will come into force in all Norway. Such a thorough change in curricula was felt as a burden by the teachers. These new curricula are much more comprehensive than the usual summaries of teaching contents because they also include didactic instructions. The teachers' burden was increased by the extension of compulsory school attendance to include a *Bildungsrecht* or basic right to education for all 16-

to 19-year-old young people. This has led to overcrowded schools bursting at the seams because the baby-boom generation was looking for vocational education.

We saw in the question of developing curricula a big difference to our Model Project. There are no fixed curricula at Schwarze Pumpe because it is a real trial rather than an experiment, having a fixed term and a specified location. As specialist subject teachers or practical teachers (*"Ausbilder"* could also be translated as instructor or trainer, but we prefer "practical teacher") we have to develop our own curricula suitable for reaching the aims of our Model Project. We cannot change everything, for we are tied down by the regular curriculum and in-company training regulations. We are certainly able to vary the combination of contents and above all we are able to choose the teaching methods that we use at school and in the company. As a result, our curricula are geared to the local requirements of the area served by our Model Project. It would not be easy to adapt our developments to any other school or company.

The Norwegian colleagues also described their working conditions. They have 21 teaching hours per week in classes that have 20-25 students at the beginning of the training but that shrink later on. In the taxidermy class, for instance, there are only four students left. Such teaching hours and class sizes did not seem problematic to us as compared with German conditions. In Germany, upper secondary school teachers have to teach 24 hours per week in classes of up to 30 students (the minimum number of students is 16). In some states of the Federal Republic of Germany vocational schools have a teacher-student ratio as poor as 1:54. Because in the dual system students have to attend school two days a week at most and the schools have a five-day working week, we can calculate the average class size by dividing 54 by 2.5 which equals 21.6, a relatively low figure as in Norway. The situation is completely different as regards in-company training in Germany. In industrial training a practical teacher is responsible for some eight apprentices. Practical teachers have longer working hours than teachers (37.5 hours per a five-day week). This is one reason for the high training costs that German industry is complaining about.

It was our impression at least that the working conditions of Norwegian teachers do not differ very much from those in Germany. It seemed to us that the teachers were complaining about the trouble caused by Reform -94 chiefly because they felt overwhelmed by the broad consequences of the changes it brought about. We have similarly had some extra trouble with our Model Project, because compared with ordinary teaching or training it

has involved rather more preparation and organization. A particular aim of our Model Project is improving the co-operation between the school and the company, and that cannot be achieved without some more conferences between teachers and practical teachers. We know from our own experience how much extra work the introduction of new curricula and teaching methods causes. Just the simple exchange of experience of the time that new things take is absolutely necessary according to the spirit of the reform.

Even so, we were absolutely surprised by the friendly, open and co-operative atmosphere at the Kristiansand Upper Secondary School. Students and teachers see each other very much as partners, which is quite unusual in Germany (apart from our Model Project). The shared task of improving the quality of the training is uniting them. We were pleasantly surprised by the way our Norwegian colleagues dealt with each other. We also saw that they were making quick progress towards realizing the reform aim of an equal status for vocational and general education teachers. The two groups of teachers had previously been trained separately, divided into academic and vocational routes. Now the Reform -94 requires them to work closely together, teaching the same students who are training for several occupations and going through various phases in their education. As a part of the reform, teacher training will be changed under the programme heading Education for Academic and Vocational Teachers. On the basis of our impressions we see (1) the Norwegian academic teacher as equal to the German upper secondary school teacher and (2) the Norwegian vocational teacher as equal to the German practical teacher. We are not too sure whether this is an accurate view. Therefore we wish to explain our interpretation at some greater length.

We felt completely justified in considering "academic" and "general" education as equivalent. In German upper secondary school classes German as a subject involves literature, for instance. That would not be any different with Norwegian as a school subject. Similarly, upper secondary school mathematics is not about arithmetic but higher mathematics. Teaching on this level is a preparation for university, hence the term "academic". Where we got into difficulties was in defining the boundary between "academic" and "vocational". If we are not dealing with mathematics but with electrical engineering, on the one hand it is certainly "vocational" education and on the other hand there is also an "academic" element, but no "general education". There are probably no university-educated vocational teachers in Norway. In Germany all teachers, even those teaching at a vocational school, have to study two subjects at university. In the former

GDR they even have engineers (Dipl.-Ing.-Päd) with special pedagogic training for in-company training. From our perspective we can see no point in making, in training teachers, a distinction between "academic" and "vocational".

If we consider school practical teacher equal to vocational teacher as distinguished from academic teachers, then in the context of the German system we are still left with a vacant position because the German practical teacher or the trainer in a Norwegian business who takes part in the dual model usually never studied at university. Their tasks are frequently performed by skilled workers with further vocational training but no university studies. Seen from that angle, Norwegian vocational teachers should surely become vocational school teachers with university qualifications. Given that it seems to us that there is no longer any problem with differentiating between "academic" and "vocational" education, only between the theory and practice of an occupation. To put it differently, what does a teacher who studied at university know about skilled work?

In contrast to the old practice of separate training for academic and vocational teachers, which remains somewhat vague in practical use, the combined teacher training that started with the Reform -94 seemed very interesting because in a strict sense it is impossible to reform school and vocational training without simultaneously reforming teacher training. This aspect of school reform policies has been completely missed in Germany (to reduce costs policymakers would like to move the training of vocational school teachers from university to *Fachhochschulen* (polytechnics), which would also mean retaining the distinction between academic and vocational teachers). By contrast, to reduce communication barriers the new Norwegian model brings future colleagues with general and vocational background together as soon as they start their studies.

The combined training programme was launched in summer 1996 while in October it will be given its regular curriculum, worked out by a national committee appointed in 1994. During our visit to Agder College we learned about the shortly beginning implementation of this part of the reform. The plans seemed to fulfil the requirement of bringing properly qualified lecturers with vocational experience into action. We were largely convinced by the way in which theoretical and practical teacher training will be integrated. The students are already working at an upper secondary school, so that they acquire practical teaching experience there. However, they have Fridays free, enabling them to study on Thursday afternoons and on Fridays. They reach the highest degree, "academic teacher", after stu-

dying for seven years, but begin to teach after their first four years of studies.

A study group of 20 academic and 20 vocational teachers is going to be split into 10 basic groups. Each basic group consists of 2+2 teachers representing the different educational routes. Students have to solve their tasks in the team, and they are even allowed to work on their final projects together. This organisation of the studies on the basis of teamwork reveals an emphasis on communication skills, which may even be the central focus of the combined teacher training programme.

Why Have the Individual Institutions Been Chosen?

The visit to our Brandenburg Model Project at Schwarze Pumpe was inevitable, because the Model Project Vocational Education Under the Vocational Education Act With Polytechnic Entrance Qualifications is being run only at Schwarze Pumpe. There are only two partners, one school (*Oberstufenzentrum* (tertiary college or upper secondary education centre) of the Spree-Neisse district) and one company (the LAUBAG or Lausitzer Braunkohle AG) and therefore only those two institutions were able to give information to our Norwegian visitors.

Which Educational Activities Would Best Improve Parity of Esteem Between Vocational and General Education?

The Model Project pursues two fundamentally complementary aims: it should prove firstly that it is possible to learn an occupation and simultaneously gain entrance qualifications to higher education and secondly that particularly the participation of a company as a learning site gives trainees a new kind of competence for higher education. On the one hand students must be given university entrance qualifications (as well as occupational knowledge and skills), on the other hand those higher education qualifications as such should be revised and improved. Both aims are served by the new principle on which learning is organised.

The learning contents are all derived from existing curriculum guidelines (the *KMK-Rahmenlehrplan*, the curriculum framework approved by the *Kultusministerkonferenz* or Standing Conference of the Federal Ministers of Education, and training regulations). On the other hand, they are structured in a completely new way through their didactic integration into combined learning and working tasks. This reorganization affects particularly the didactic structure of those contents. The aim is a synthesis of vocational and general education on the principle that the education

needed to prepare a student for university is to be gained through the acquisition of vocational knowledge and skills. From a didactic point of view we are dealing here with complex working processes, not with isolated operations, that is, with the systematised and analysed components of the knowledge and skills required in an occupation.

Such an approach requires the application of new forms of learning and teaching. Within our Model Project we have the defined learning and working task as the starting point, around which we structure the discrete elements of the syllabus and vocational education regulations. Learning will be spurred by the difficulty of solving the task, formulated in a way that leaves the result open, rather than being constructed with the "best technical solution" in mind and made to lead to it. The aim of curriculum contents, or more precisely of the didactic reorganisation of the obligatory contents, is giving students "shaping options" to guide their learning. This is triggered off (intentional in the curricular and didactic sense) by the working task.

Where this is not possible (in subjects less closely linked with the occupation in question, such as languages or mathematics), students will be given complex tasks, so that they overcome subject systematically work off of a single task. Thus on the one hand the original structure of the subject is preserved while on the other hand a didactically improved teaching method makes vocational learning possible.

The decisive factor in carrying out the learning and working tasks as a project are the revised teaching methods. Classroom teaching is not dominant any more, but retains its function as "teacher presentation". Students should work in groups on the given learning and working task. If the students are unable to work out a problem among themselves by exchanging information, the help that they need is found in teaching materials or provided by the teacher. The learning and working tasks demand a highly flexible working method, because there are alternating phases of independent work (also including experiments), investigation (information-gathering) and specific instruction to impart basic requirements. Each team (or individual student) must propose and take the responsibility for their own solutions, The standard of the solution found by a team depends chiefly on team members' ability to work as a group. The qualifications and learning abilities required by a learning and working task makes a severe challenge to lower secondary school leavers. The studying methods into which they have been socialized at school frequently make them feel stretched beyond their limit when they are required to carry out inde-

pendent work instead of working to the rhythm of the cycle of school subjects.

What Kinds of General/Academic Study are Included in the Unit's Vocational Education Programmes? What Kinds of Vocational Study are Included in its General/Academic Study Programmes?

Learning and working tasks integrate the theory and practice of an occupation. Both the occupations (energy electrician (*Energieelektroniker*) and industrial mechanic (*Industriemechaniker*)) that the Model Project is qualifying students for are very much defined by science; that is, acquiring the requisite knowledge and skills confronts the students with many issues linked with general education, especially with such subjects as mathematics and natural science. Since theory and practice have been taught at the same time (in the context of a learning and working task, not simultaneously by themselves), they interpenetrate with the result that they cannot be separated in any precise way. However, the process fosters abilities that can later be divided into "general/academic" and "vocational" knowledge and skills.

How are the Linkages Between the School and Working Life Arranged With a View to Supporting Curriculum Development? What are the Future Prospects? What Kinds of Problem Exist?

The students of our Model Project attend school two days a week and work three days at the company. The company is a large enterprise and has the training workshop usual in such enterprises. The workshop is naturally far removed from production and working life. More precisely, this does not apply to the machinery (which is usually of industrial standard and made not only for teaching), but to the process of learning, which is not directly related to the authentic working process. In their second year (of the 3.5 years which their training lasts) students start at the company as apprentices. In their third year they are given special practice or training jobs in real production (*betriebliche Versetzungsstelle*) where specially trained skilled workers introduce them to the actual work. As a whole we can say that together the learning and working tasks and the training jobs give us a very well-developed connection with working life.

The training jobs are not a systematic part of the Model Project. It cannot be denied that the didactic methods used in them could be improved. Because of the double qualification delivered at Schwarze Pumpe, the question of the Model Project's links with working life also involves its

relations to higher education (a *Fachhochschule* is, in a sense, another kind of workplace for which students are being prepared through the double qualification aimed at). As part of the project the students visited a *Fachhochschule* and attended a lecture. The learning and working tasks also covered, in a presentation phase, the skills needed in presenting, illustrating and discussing suggestions. In this respect the training has inherent links with the work of students in higher education.

We see no problems here, only possibilities for optimising the Model Project.

Reasons and Circumstances That Help to Explain the Nature of Your National Reform Case

In West Germany, the strict separation of higher, intermediate and lower routes of education, allegedly leading to a low level of participation in higher education, has been identified as a potential crisis factor since the mid-sixties. The educational system of those days, with its clear-cut structure, resulted in a quantitatively fixed distribution of pupils between the three strands of education. The *Gymnasium* (upper secondary school), the most academically demanding of the school types, was the only route to university studies. The kind of entry to university studies that it offered was unique and entailed much more than the merely formal access to higher education that is gained at, for instance, in upper secondary schools in the Anglo-American world. The *Gymnasium*, by definition, has always been and still is a long-term educational institution, which is why only a relatively small number of all the students in an age group (about 5 - 10%) gained admittance to this type of school. To put it more clearly, the structure of the educational system as a whole provided an early selection process, distributing students between types of secondary school that gave little or no chance for later changes of track. In the 1960s the *Gymnasium* comprised nine school years. School education started (and still starts) at the *Volksschule* (elementary school) - later *Grundschule* (primary school) - at the age of 6; at the age of 10, pupils had to decide whether they would carry on at this school for another 4 years and then (at 14) go into vocational training, or whether they would attend the *Gymnasium* and then enter university. Family background - academic or non-academic - and parents' financial standing were usually the decisive factors and, as a matter of fact, were strictly interdependent. That is to say, those pupils who grew up in a family that was able to support them in meeting academic requirements were in effect always of the middle or upper middle class. In the case of pupils from

lower-class families, things were just as clear-cut. From a sociological point of view, the old tripartite system of secondary education (in 1960 the *Volksschule* was attended by 2,122,000, the *Realschule* by 430,700 and the *Gymnasium* by 853,400 children) was highly selective and served the purpose of recruiting an elite in a non-egalitarian society: family background was more important than individual capability.

In the 1960s, the barriers between the school types came to be regarded as educational obstacles and were discussed in appropriately critical terms. G. Picht coined the term "educational disaster" and predicted that the Federal Republic, a country lacking in raw materials and thus solely dependent on its human resources, would ultimately be defeated by its competitors. It was after the presentation of this crisis scenario that the first reforms of the traditional structure of the educational system were initiated. The political conflict over educational reforms that flared up in the sixties is still lingering, and today's national framework of education has been influenced by the outcomes of the reform battles of those days. That is why it is important to consider the reform ideas of the sixties in order to understand our present situation.

From our viewpoint today, the reforms of the 1960s seem paradoxical. Admittedly the *Volksschule*, comprising 8 years of basic education, was abolished and replaced by a 4-year compulsory *Grundschule* (primary school), followed by either 4 to 6 years at the *Hauptschule* (basic secondary education) or 6 years at the *Realschule* (intermediate secondary education) or 9 years at the *Gymnasium* (upper secondary school). The actual change here was the abolition of a single mainstream educational path of eight years' duration. In order to fulfil the demands of compulsory education, it had not been necessary for all parents to consciously make a definitive decision as to the school career of their child. Nobody had to leave the *Volksschule* (elementary school). However, with the introduction of the *Grundschule*, every student was forced - by the very nature of the new school structure - into a conscious decision about his or her future.

At the same time, the establishment of the *Hauptschule* was, in effect, a continuation of the idea of the elementary school (*Volksschule*). This is evident in its very name, "main" school, and also by virtue of the fact that it was, by definition, supposed to be the school type with an exclusively vocational orientation(especially as compared with the *Gymnasium*). Thus, despite the abolition of the *Volksschule*, the dichotomy of vocational training and general education was still inherent in the new school structure: the *Hauptschule* prepares children for vocational training while the *Gymnasium*

prepares them for university studies. The *Gymnasium*, in particular, managed to shield itself from the changes that took place in the 1960s. Despite the new and more modern structuring of the school system into a primary stage, lower secondary stage (*Sekundarstufe I*) and upper secondary stage (*Sekundarstufe II*), the *Gymnasium* remained a long-term route. As in the days of the *Volksschule*, it was possible to enter the *Gymnasium* in school year 5 (at the age of 10) and leave it upon completing school year 13. Furthermore, the *Gymnasium* has retained its traditional middle- and upper-middle-class student clientele. Thus, in essence, to this day nothing has really changed.

In terms of the initially intended integration of vocational and general education, the reforms of the 1960s have had no effect whatever. Although the structural changes that have been introduced have, in fact, increased educational mobility - visible in the doubling of the number of students in secondary schools other than the *Hauptschule* by 1970, and in the general increase in the number of students with the Certificate of Matriculation - and although they have led to the intended modernisation of the system, they have not affected the dichotomy between general education and vocational training. More specifically, while the 1960s saw the abolition of the specifically German class-related organisation of education, the inequal distribution of rewards involving social prestige, access to university studies etc between upper secondary education and vocational courses of study remained intact. There is nothing surprising about this, since the reforms of the sixties were directed mainly at primary education and *Sekundarstufe I* (lower secondary education), less at *Sekundarstufe II*, which includes not only the *Gymnasium* but also vocational schools.

Other important aspects of the reform without direct relevance to the matter at hand will not be discussed in detail here. Our intention is instead to clarify the impact that previous modernisation and reform movements have had on our situation today. It is now possible to see that the reforms of the 1960s have not achieved what they set out to create, an educational system that can both qualify students for the modern world and comply with democratic ideals. Even the initiators of the reforms recognized their failure quite early on and consequently took new steps towards a renewed, second reform process around 1970. This, however, merely intensified the old problem of the devaluation of vocational education, and had effects that can still be felt today.

In the 1960s the German vocational educational system had already begun to contribute to attempts to raise the standard of educational oppor-

tunities. Picht's prognosis of an impending educational disaster helped to establish a policy of promoting the gifted. The intention was to provide industry with qualified people able to cope with the technological change and progress underway. The policy was to provide extra assistance (such as tutoring) to those young people in vocational training (or to young people who had completed their training) who wished to attend institutions of higher learning, in order, for instance, to improve their career prospects. This made it necessary to create new educational paths, such as the following (to name just a few):

- Evening schools (*Realschule* and *Gymnasium* level) where adults were given a second opportunity to obtain qualifications while at the same time working during the day;
- Higher-level vocational schools where adults were given the chance to obtain qualifications giving them access to the *Fachoberschule*. Attending the *Fachoberschule* involves approximately two years of full-time study with separate programmes for each vocational field. Examples of the most frequently elected vocational study areas are engineering, business and administration, social work, etc.
- *Fachgymnasien* or vocational *Gymnasiums* (in Bremen), *Höhere Handelschulen* or higher commercial schools (in Lower Saxony).
- *Berufsoberschulen* or vocational secondary schools (in Bavaria) and *Berufskollegs* or vocational "colleges" (in Baden-Württemberg) were other types of higher vocational schools (given a variety of names, as can be seen above) that were created to allow students to obtain a general university entrance qualification.

This brief survey on the one hand shows the direction that the reforms took and on the other hand seeks to illustrate the increase in the variety of school types that came into being - a variety, however, so overwhelming and difficult to sum up that it is impossible here to even begin to list them all.

The reforms undertaken changed vocational education in ways that made it more and more similar to, if not identical with, general education, which made the continuing devaluation of vocational education all the more conspicuous. Any trainee or employee aspiring to obtain higher-level qualifications was indeed provided with a growing variety of possibilities; however, inadvertently all these possible educational paths led him or her away from vocational training and towards general education.

The last phase of decisive reform (1970 - 1985) addressed precisely this issue. All in all, there were three different reform movements, one of which involved the upper levels of the *Gymnasium*. The other two movements

concerned new kinds of school altogether: comprehensive schools (*Gesamtschule*) and the *Kollegschule*. Both movements have remained basically unsuccessful - after years of heated political disputes, particularly between the federal states, but also within one and the same state (as in Hessen and North Rhine-Westphalia, where the dispute became a major election issue). Nonetheless, however unsuccessful, their very existence has led to some improvements in the vocational school system.

We shall first discuss changes to the upper secondary level of the *Gymnasium*. This traditional type of school, having survived the first phase of the educational reforms in the 1960s practically untouched, was felt to be in need of modernisation, especially when compared to its international counterparts. What was missing was a marked distinction between the lower and the upper secondary level and a clear profile for the latter. Rather than just building on the subjects taught at the lower level through the introduction of a successive series of increasingly somewhat more demanding topics, the upper level was to be defined as a distinct educational phase for developing and enhancing what were termed "research skills". Furthermore, the Matriculation Examination was to comprise a wider variety of subjects. Up to this point, the compulsory written examination had only included four subjects: German, maths, a modern foreign language (usually English), and one other subject specifically linked to the school's particular profile such as physics, an ancient language (Latin, Greek), or a second modern foreign language (usually French), etc. If a definitive decision as to a final mark could not be reached, students had to take an oral examination. Within this rigidly regimented system of *Gymnasium* subjects, students had no opportunity to specialise as a preparation for their intended main subject at university.

All this was to change in 1972, however, with the reform of the upper secondary level of the *Gymnasium*. The three years making up the upper level were turned into two phases, called the orientation phase and the qualification phase respectively. The first phase comprises year 11. In the first half of this year, students stay together in permanent groups and are all taught the same subjects, while slowly being introduced to the special demands of each subject to be taught during the next stage. In the second half of year 11 (in Bavaria in year 12) they start to specialise, joining short-term research groups. The system of fixed subjects became a system of courses offered on different levels. There are, however, certain conditions that limit the students' range of choice. Certain subject areas have to be covered, including language and literature, mathematics and sciences,

arts and culture, in Bavaria also economics and social sciences. German and maths are still compulsory for all, while Bavaria also requires a first foreign language. Moreover, there is a compulsory number of courses to be taken. In their choice of the course of studies to pursue, students are naturally also considerably influenced by (a) the way in which the final marks are calculated (there is a credit-point system with a minimum acceptable number of credits; before the final examination the credit points are converted into marks) and (b) by speculations as to the best means with which to achieve the best final marks.

In order to retain the idea of "quality" in general education - considered in terms of a broad canon of compulsory subjects and in-depth knowledge as prerequisites for university education - and to defend it against the possibility of excessive specialisation and a superficial variety of subjects, two different course levels were introduced: advanced-level courses and basic courses. Formally, every school is obliged to teach all of its subjects on both an advanced and a basic level. Having completed their basic courses the students can then chose their (two obligatory) advanced-level courses on the basis of their major interests. These courses are pre-academic, whereas the basic or foundation courses are designed to ensure a broad-based *Gymnasium* education through a concentration on the transmission of facts and extensive knowledge. The pre-university nature of the reformed upper secondary level at the *Gymnasium* is also emphasised by the fact that the qualification stage (years 12 and 13) is designed as a single unit consisting of four terms. All four terms must be attended and students may not jump a term, nor can they be demoted to a lower one on the basis of low marks.

Explicitly aiming to introduce vocational contents into the *Gymnasium*, this reform has certainly been successful as compared to the old canon of school subjects (languages, maths, history). On the other hand, however, the *Gymnasium*, due to the pre-academic nature of the courses, remained firmly oriented towards university subjects. It still steered clear of the practical orientation necessary for true vocational studies. This is the reason why its traditional forms of instruction are still basically unchanged. At the *Gymnasium* the concept of vocational orientation always boils down to the imperative of preparing students for particular university courses. (Interestingly enough, universities repudiate the claim that vocational instruction at the *Gymnasium* must have an exclusively theoretical focus). Information technology, for instance, as a school subject taught at the *Gymnasium*, is far from concerned to introduce students to the actual work tasks

involved in information technology. The same is true of the instruction given in home economics. The corresponding university subject is called ecotrophology and is closely related to either economics or food technology. At the *Gymnasium*, students may be taught a certain amount of theoretical knowledge about both areas, but no practical hands-on skills. The reformed *Gymnasium* still prepares its students exclusively for university studies, not for occupations. In essence, the only novelty brought about by the reform has been that *Gymnasium* students are now, unlike before, able to study certain occupation-related subjects. Choosing and studying such subjects, however, does not entail any actual vocational preparation in the sense of being given practical hands-on training; students will receive such training only on entering university.

A second set of reforms involved the introduction of a comprehensive school. The idea was born out of the educational and sociopolitical results stemming from the efforts of the reform movements of the 1960s. Their paradigm propagates the (social) integration of all lower secondary school students. The educational motto is "Integration instead of selection". The comprehensive school seeks to be an all-encompassing educational umbrella institution offering all the various kinds of qualification (e.g., the *Hauptschule* Certificate, the *Realschule* Certificate, etc.) as well as a means of "internal differentiation" and "individual promotion" (such as supporting weaker students). This new school type was intended to replace the *Hauptschule*, the *Realschule* and the lower secondary level of the *Gymnasium*. It was devised as an institution of general education with a strongly integrative social philosophy. If a comprehensive school also provides upper secondary education (years 11 - 13), it offers and constitutes, in effect, the equiva-lent of the upper secondary level of the *Gymnasium*. Thus, the reformed *Gymnasium* and the new comprehensive school had almost exactly the same reform objectives, since both aim to increase the number of students with higher general education qualifications. As a consequence, more or less unwittingly, the establishment of the comprehensive school also led the way in making the vocational route seem a more and more unattractive option, to be avoided by any means possible.

The third reform movement involved the *Kollegschule*. Compared to the *Gymnasium* reform and the launching of comprehensives, the *Kollegschule* is the only reform model of the 1970s that took vocational education as its main reform focus, both in terms of school policy and in terms of educational politics. As the name indicates (originally it was called "college level"), it is a *Sekundarstufe II* school which provides students with research

skills and prepares them for university studies. As this type of school was designed to eventually replace the upper secondary level of the *Gymnasium*, it was clear from the very start that it would not find favour. Since the *Gymnasium* refused to support the developmental process of the new school form, the *Kollegschule* was only able to establish itself as a new kind of higher-level vocational school. Because the reformers were convinced of the essentially scientific nature of all occupations and all aspects of practical work, they naturally believed that general and vocational education go hand in hand and are of equivalent value. According to their thinking, a structural school reform would do the job of guaranteeing this equivalence. The reformers realized that idealizing the value of general education at the expense of vocational education is an outdated notion. They firmly considered that given the right conditions, the vocational route could likewise lead directly to the university. Thus, they sought to create the preconditions necessary to make this possible. They argued that all that stood in the way of reform were certain rigid organizational rules and regulations concerning curricula and didactics, which, however, could be amended with time. The reform efforts and projects have now lasted 20 years and have led other *Bundesländer* (e.g., Berlin, Bremen and Hessen) to likewise attempt to institute an equal emphasis on the teaching of general and vocational contents. However, the only type of *Kollegschule* that has thus far been successful in bringing about such an integration of upper secondary education has been the North Rhine-Westphalia project.

In competing with the upper secondary level of the *Gymnasium*, the *Kollegschule* school type has come up against some major drawbacks. For instance, the new regulations governing the reformed upper secondary level of the *Gymnasium* were also imposed on the course of study intended to deliver university entrance qualifications at the *Kollegschule*. Moreover, the dual system of vocational training (involving cooperation between schools and businesses) in Germany made it impossible to establish an educational path capable of offering the double qualification of a vocational certificate combined with university entrance certificate, a path favoured by the reformers because they wanted to prove that it is possible to combine vocational education and preparation for gaining access to university. As a consequence, *Kollegschulen* instead offered training for what are known as "assistant occupations" (purely school-based training that does not necessitate the cooperation or involvement of businesses) in combination with the Certificate of Matriculation. In many cases (especially in North Rhine-Westphalia), however, these occupations were not known to the

labour market at the time. There was no call for them and as a result graduates were for the most part only able to market their university entrance qualifications. Although North Rhine-Westphalia applied a new marketing strategy towards the end of the 1980s, attempting to adjust educational paths and instruction delivering double qualifications better to the needs of the labour market, its reform efforts have remained largely unsuccessful. Despite the fact that a number of *Kollegschulen* in the state have been able to successfully sell the double qualification of their trainees to certain types of industry, they have also met with a great deal of opposition coming mainly from large higher-level employer associations and labour unions. This opposition was and still is strong enough to stop the *Kollegschule* project from initiating any further school reforms. Thus, to say the least, the task of integrating general education and vocational training and gaining this type of programme a status equal to, for example, *Gymnasium* programmes, remains unaccomplished.

As for the German system of vocational schools, it has not been reformed. Nevertheless, vocational schools have grown in importance for several reasons: the education they offer has generally become more and more regulated; schools offering full-time vocational training (*Berufsfachschulen*) have been established; the already mentioned higher vocational schools now offer a wider variety of education; and, lastly, new training procedures are being devised for numerous individual traineeships and whole occupational fields. These new regulations have given more weight to part-time vocational schools within the dual system (*Berufsschule*), as is clearly indicated by the increase in the amount of the time trainees are able to spend at school (varying between one day and a maximum of two days per week) and by the increased length of training for certain occupations (from 2 to 3.5 years).

Given the two big phases of educational reform in West Germany that have just been discussed, the present, still critical situation of the educational system can be summed up in the following way (with the school types being described in the same order as above). As regards the *Gymnasium*, 20 years of numerous modifications and adaptations resulting from the reform of 1972 (effective from 1974) have led to an ambiguous situation. On the one hand the *Gymnasium* has won a major victory. It has held its predominant position in the educational system (as evidenced by the fact that, in some federal states, it is attended by as many as 40% of all students in a year). Nevertheless, the *Gymnasium* has begun to complain that it has been attracting a student population with which it is no longer able to meet

its necessarily high standards. The paradoxical nature of this situation is self-evident and needs no further elaboration. What should be assessed, however, because of their substantial impact on present and future reform movements, are the circumstances that gave rise to the paradox.

The reform of the upper secondary level of the *Gymnasium* coincided with a university reform (both reform movements being a reaction to the "educational disaster"), but, because of financial reasons, the reforms were carried out at different paces, with the costly university expansion falling behind the less costly *Gymnasium* expansion. Thus universities soon did not have the capacity to take in the rising number of *Gymnasium* graduates wanting to pursue university studies. (For the reasons behind the rise of interest in university studies please see below) The universities' first reaction to this situation was to introduce the "*numerus clausus*". It meant that in order to gain access to certain highly popular programmes (such as, at one time, medicine) it was essential to achieve a high grade point average, the *Gymnasium* Certificate of Matriculation (*Abitur*) alone being no longer enough. This measure, in fact, devalued the university entrance certificate which, in the German system, is awarded by the educational institution from which the students graduate rather than by the institution to which they are admitted. The implementation of the *numerus clausus* strongly influenced the reform of the upper secondary level of the *Gymnasium*. Absurdly enough, the *numerus clausus* forced students into certain courses of study, keeping them out of others, while at the same time being based on an overall grade point average. Therefore, students choosing their basic and advanced subjects at the *Gymnasium* were torn between their wish to focus on their individual interests and strengths on the one hand, and the need to achieve a good final overall grade point result on the other.

To present an extreme example of the highly absurd situation more often than not caused by the *numerus clausus*: if the *numerus clausus* for university studies in physics for instance required an overall grade point average of 1.5, a student wishing to study physics at university would perhaps be better advised (as well as being able), while still at the *Gymnasium*, to avoid the demanding advanced physics course offered there. Instead of taking the risk of gaining only an average mark in a difficult subject (albeit one of immediate interest to him or her and directly relevant to his or her intended university studies), the student could take an "easier" subject such as biology, physical education or geography. Although the *Bundesverfassungsgericht* (Federal Constitutional Court) declared the *numerus clausus* in principle unconstitutional, the Government (which did

not have the financial means to pay for the new university facilities, instructors, and so on necessary to manage the influx of students into the universities) continued to embrace it as a means (it was hoped) with which to deter students from pursuing university studies. This "interim" policy lasted for quite a number of years, yet was highly unsuccessful. More often than not students attained the necessary *numerus clausus* anyway by skirting the *Gymnasium*'s more demanding subjects, achieving a higher grade average and thus the *numerus clausus* by taking and successfully completing easier courses.

While formerly students chose university programmes that interested them and suited their individual strengths, in today's situation their choice of programmes (also at the *Gymnasium*, since for most fields the *numerus clausus* is no longer in force) is strongly influenced by their later career prospects. At a time when, for instance, today's Germany has some 10,000 unemployed doctors of medicine (to give only one example of the many professional fields adversely affected by unemployment), students now choose fields of study offering more promising employment prospects and guaranteeing financial and / or social rewards. In summary, one can say that the German system of university entrance qualification is now mainly governed by the academic job market. Despite the fact that there is still a rising demand for university education, the real value of the Certificate of Matriculation awarded by the *Gymnasium* is going down all the time. It can no longer guarantee its students a successful professional career (and has thus itself become devalued).

The main reason why more and more young adults wished to pursue university studies was that they were attracted by the possibility of gaining a higher income and a correspondingly high social status. Another factor that contributed to their desire to study at the university was their family background. After the educational expansion of the 1960s, more and more young people obtained a Cerfiticate of Matriculation. In those days they were referred to as "social risers"; the term "rise" alluded not only to income statistics but also to educational statistics which keep track of all types of school certificate. These social risers (many of which today hold a university degree and enjoy the benefits of a high income) of the post-1960s have become the parents of today's young adults and quite naturally want their children to reap the same educational and social rewards as they did. This situation is one of the reasons behind the fact that in the course of the last 20 years the number of those pursuing university qualification has exploded in Germany. This strong trend cannot be influenced by educational

politics and any attempt to forcibly change this tide of the times would certainly meet with a potentially disastrous public outrage. In summary, the cause for the present situation of the reformed but essentially still traditional *Gymnasium* was in a wider sense the distribution of incomes in German society today and in a narrower sense the academic family background of most of its student population.

The comprehensive school has also had its problems. Its main aim, social integration and access to higher education for as many young people as possible, has not made it the mainstream school within the school system that it was meant to become. Wherever comprehensives were established, they exist merely as additional types of school alongside the other three kinds of secondary school - the *Hauptschule*, *Realschule* and *Gymnasium*. Thus, the original aim of abolishing the tripartite school system in German lower secondary education has not been achieved. In addition, the absence of any existing reform model of a comprehensive *Sekundarstufe* II school makes it impossible to sell this type of education effectively. In North Rhine-Westphalia, where the *Kollegschule* was intended to constitute such a comprehensive school form, the *Kollegschule* similarly came to exist alongside a number of other types of vocational school, and has failed to become the mainstream *Sekundarstufe II* school. The failure of the whole reform becomes even more obvious in the fact that even in those areas where both comprehensive schools and *Kollegschulen* co-existed, they operated completely independently of each other and (with only one single exception) did not cooperate. Comprehensive schools and *Kollegschulen* were established in complete isolation from each other. In other words, in educational politics the two reform models have featured as separate movements. Consequently, it is not surprising that the two school types failed to recognize and thus to make use of their uniting links, even after the failure of the reform as a whole, when cooperation would have been the only sensible thing to attempt. Comprehensive school graduates, rather than attending *Kollegschulen*, later mainly pursue the equivalent of the upper secondary level of the *Gymnasium* offered (in accordance with the regulations of the Standing Conference of the Federal Ministers of Education), by the comprehensives themselves or at other types of vocational school.

As for the *Kollegschule*, in contrast to the reform movements of the 1960s and 70s, this school type was established as a response to the fatal implications that an expansion of general education participation would have for vocational education. The big concern was that more and more potential

students might be tempted away from taking the vocational route: students by new educational paths, qualified workers by offers of school-based continuing education for adults. The original concept behind the *Kollegschule*, the integration of general and vocational education, was lost. This became most obvious in the double-qualification programmes on offer. More often than not they meant simply a double work (learning) load for students, without in any way enhancing their level of vocational knowledge (or its value!). This had disastrous effects on the pilot projects implemented in Hessen and Berlin. Since these were carried out on a rather small scale, they were easy to dismantle - which is exactly what happened. Only North Rhine-Westphalia (in the meantime boasting 80,000 *Kollegschule* students) has not yet officially withdrawn from the attempt of bringing about an integration of general and vocational education. Essentially, 20 years of effort spent on trying to realize the idea of the *Kollegschule* on a large scale have had no impact whatsoever on making this type of school attractive to potential students. No participant in current discussions about the crisis of the dual system and about its impact on school structures any longer disputes the necessity of working towards an "equivalence of general and vocational education", but only rarely is there any mention of the *Kollegschule* in this context.

In a modern society such as ours, institutionalised education and training must to adapt to the times. This, however, is not always easy and more often than not constitutes a most formidable challenge. Social and technological change allows us to predict the erosion of traditional jobs and occupations, but not, in most cases, to anticipate what the future will hold for the world of work. Nevertheless, the system of general and vocational education is expected to prepare the next generations for this change. Practically all structures of education and training have been reshaped because of the fears of the widely publicised uncertain occupational future that students face today. Students' well-founded apprehensions about unemployment together with their natural desire to secure a well-paid job and respectable social status have changed the map of our educational institutions, today a map outlining many educational routes that, however, is still unable to clearly show the way out of the crisis.

The structures of the educational system defined by administrative regulations have been transformed by the continuously shifting external demand. It is a case in point that in urban areas the *Hauptschule* is no longer the mainstream school, but has instead turned into a school for "losers", that is, for those who pulled the shorter straw in the selection processes for paths

to higher education. In some urban centers with many comprehensive schools this process of displacement has gone on more or less unnoticed because these schools recruit exclusively students who would otherwise have attended the *Hauptschule*. This is a process which has already led to the closure of a number of *Hauptschulen*. The coexisting *Realschulen* and *Gymnasiums*, on the other hand, tend to (to an extent of nearly 100 per cent) recruit students who are expected to succeed in a more academically-oriented type of secondary school (a judgment based on an evaluative prognosis provided by *Grundschule* teachers). The result is that even newly-established comprehensives are simply taking over the role of the *Hauptschule* which they themselves helped to dismantle.

The crisis of the tripartite school system was therefore not alleviated but only exacerbated by the comprehensive school and the *Kollegschule*. The crisis was aggravated so explosively and extensively that the demand for schools offering a direct and clearly-drawn path to university grew all the more. As described above, the reforms of the 1970s were unable to bring about any true changes since university access (via a channel other than that of the *Gymnasium*) could not be incorporated into the system as it stood. This is not to say that alternative paths do not exist; however, at present none of them constitutes a sufficiently attractive option alongside the *Gymnasium*.

The main reason for the lack of appeal of alternative modes of gaining access to university studies rests in the fact that most parents of our student population (who naturally want what they deem to be the best for their children) achieved educational success by attending the *Gymnasium* - the only path to university available in their time - and consequently advise their children to take the same route. In this way prescriptions for achieving educational and later professional success are being handed down from generation to generation, a process that started in the late 1960s, hand-in-hand with the first steps in the modernisation of the German educational system, and has continued ever since.

Looking at these dynamics from a psychosocial perspective makes it clear that the wish for later professional success and financial security has become linked with the idea that it is necessary to acquire certification enabling access to university. Looking at the matter from an economic standpoint, the statistics show that many young people are willing to do without the financial perks (earning while learning) always offered by the dual system (presently a trainee can earn between DM 300 and 1,600 during his or her first year of training) in order to be able to focus, instead, on

studies intended to guarantee later financial rewards in a profession. Consequently, many young people have avoided those types of schools (the *Hauptschule*) that were traditionally channels for recruiting trainees to be later employed as skilled workers and craftsmen.

The training market (industry and trade) responded rather late to this clear decrease in demand for apprenticeship training. Initially, the diminishing interest in apprenticeships was not obvious because rising birth rates meant that at first there were still enough young people applying for them. The first signs of a shortage of applicants were felt in those occupations which traditionally had always held less appeal than others. These occupational fields were the first to feel the impact of the fact that more and more young adults were opting for the Matriculation Examination and deciding against entering the dual system.

By this time, a shift had manifested in young adults' vocational choices that clearly favoured attractive occupations with prospects of upward mobility (which, as a rule, were to be found to a far greater extent in the industrial and commercial occupations than in the skilled manual trades). The predicament of the vocational education sector was exacerbated by the fact that companies providing training had begun to realize that given the number of young people with tertiary degrees, they could take their pick of the trainees. Thus, whereas previously it had been the policy (especially in commercial and industrial companies) to recruit *Hauptschule* leavers (pre-viously regarded as the most suitable applicants for entry-level positions within corporate hierarchies, jobs of the kind for which the dual system had been preparing it trainees), it was now preferred to recruit *Gymnasium* graduates. The hiring policies of the labour market thus confirmed the beliefs of those students who had chosen to obtain a Certificate of Matriculation rather than to attend the *Hauptschule*. *Gymnasium* graduates had begun to push *Hauptschule* graduates out of the market. Nevertheless, many graduates with the qualifications to pursue university studies upon having completed their traineeship began to make use of this access. Having obtained occupational skills and experience, many of them entered a university programme expected to give them a good chance of obtaining a senior position in the company that had trained them. Within the last few years, the number of *Gymnasium* graduates with the Cerficate of Matriculation who choose to pursue vocational training prior to attending the university has risen considerably.

In the meantime, more and more of these graduates, upon being asked about their future plans, have admitted that they would like to forego

university studies and instead train for an occupation offering a high degree of job security. Thus we now have an ever-growing number of graduates with a Certificate of Matriculation (some with a university education, some without) who would prefer to remain within the occupational sector for which they were trained in the dual system. Interestingly enough, even those with a university education tend to stay in non-academic occupations, using their university education only as a means of marketing themselves and thus improving their career prospects. It is important to note here that the structure of the German school system was never intended to lead to such a situation. Non-academic jobs in industry and business were meant for *Hauptschule*, by no means for *Gymnasium* graduates.

In summary, it has become clear that the tripartite school system with its upper secondary stage (both at the vocational school and on the *Gymnasium* level) no longer reflects the actualities of the real occupational world. The *Gymnasium*, offering a long-term education leading straight to the university, no longer serves its purpose. Attending it is no longer the exception, but has instead become the rule. In lower secondary education the number of students is evenly distributed between the *Gymnasium* and the various types of comprehensive school, to the disadvantage of other school forms. This situation has direct impact on the students' choices on *Sekundarstufe II*: vocational schools and *Kollegschulen* are frequented by the less academically gifted students (important to note here is that there are considerable differences between the demands posed by different vocational fields and occupations) or by academically minded students who aim to gain some job experience prior to attending university.

This situation in effect transfers the socially determined competition for secure jobs and high incomes onto the level of the schools and their inter-structural distribution of the transmission of knowledge. It is within this competitive context that the *Gymnasium* wins its major victory. When looked at from an external sociological frame of reference, the *Gymnasium* is the winner as far as competition between schools is concerned; however, when seen from an internal framework of reference (the *Gymnasium* being the school that leads to academic studies, while the *Haupt-* and *Realschulen* lead directly to working life) it is at the same time the loser, since it must now impose its distinct, original concept of education - which stands in no relationship to the world of work - on a student population which is for the most part primarily interested in acquiring occupational skills and qualifications.

The German school structure as a whole is clearly not abreast of the times. This does not mean, however, that all the individual school types would be equally outdated. All have in the meanwhile undergone gradual reforms involving the introduction of new curricula and new forms of learning, particularly the upper secondary vocational schools. In the fields of metallurgy and electronics for instance, vocational training regulations have been adapted to developments in technology (and partly also to changes in work organisation) by focusing more and more on transmitting abstract technological knowledge. So much so in fact that they in part even transgress the boundaries of these occupational fields, which has resulted in considerably improved standards of vocational education and training. Additionally, occupational skills have been upgraded through a training that also focuses on enhancing interpersonal skills (the ability to be a team player, the ability to communicate tactfully and effectively, the ability to take on responsibility and act responsibly, etc) necessary on the job.

In Germany, this more academically and professionally oriented approach to preparing students for working life has led to very favourable conditions which could well serve to finally prove and establish the equal importance of vocational and general education. The reunification of Germany has also made this a burning issue.

The Brandenburg Model Project has not yet been completed, but the *Bundesland*, having made the ordinances regulating the education and training and the certification procedures of the new route of dual educational qualification into law, has created the conditions essential for the introduction of routes of double qualification at all higher-level vocational education centers in Brandenburg. Because of this new educational law, the Administrative Board of Education is obliged to officially recognise and accept an application to establish this new educational route provided that the necessary preconditions exist (for instance, that a sufficient number of trainees have applied for the programmes). Nevertheless, in order to secure the propagation of the Schwarze Pumpe pilot project in accordance with its special features and methodology, a transfer process has been initiated. This transfer will be supported with measures to assist training enterprises and vocational schools in the adoption of the dual qualification system (offering continuous teacher and trainer training, implementation of standard curricula).

The Questions Guiding the Study Visits

Each country's practitioners made bilateral or multilateral visits as follows: Austria to Finland and Finland (Tornio) to Austria; England to Sweden and Sweden to England; Finland (Salo) to Scotland and Scotland to Finland; Sweden to England and England to Sweden; Norway to Germany and Germany to Norway; and France to Germany. The international study visits were made by school personnel involved in post-16 education reforms together with the project partners. In their reports the visiting practitioners answered some of the following questions:

- What reforms was the host school implementing?
- What kind of linkages did the host have with working life?
- How far were the students free to construct their own study programmes?
- How did the teachers and schools collaborate? What were the goals and outcomes of such collaboration?
- What procedures have been used to develop the curriculum of vocational programmes?
- What kind of problems have been encountered in the above-mentioned educational practices?
- What are your own plans for further collaboration with the places you visited? (objectives, timetable, person in charge, financing plans)
- What did you learn during your visit?

A national researcher coordinated each visit and arranged things with the pilot school. In some cases they accompanied the visitors to the school. In their reports the researchers were asked to answer, on the basis of the experiences they have gained from the visits and of the findings of previous studies, the following questions:

- Why was each particular unit selected?
- Which educational activities of the units are promoting an enhanced parity of esteem for initial vocational education?
- What kinds of general/academic study are included in their vocational education programmes?
- What kinds of vocational study are included in their general/academic study programmes?
- How are the linkages between the schools and working life arranged with a view to supporting curriculum development? What are the future prospects? What kinds of problem exist?
- Anything else that helps to explain the nature of your national reform case.

A Postscript From an Observer's Perspective

Pekka Kämäräinen
European Centre for the Development of Vocational Training

The project that now gives a report on its main findings had named itself Post-16 Strategies. For CEDEFOP (and for myself) it provided an opportunity to observe how a transnational research team finds its way to *learning from each other* and to *producing shared results*. Since the main task of a "research partnership" is to produce research results, in the final report the main emphasis must be placed on the findings. In this case the main thrust is to give a group picture of different types of strategy for linking general/ academic and vocational upper secondary education.

However, from the perspective both of knowledge accumulation ("validity") and knowledge utilisation ("support for transfer of innovations") it is interesting to consider how the partnership has worked its way to the findings that it is presenting. Below I try to give a sketch of the process from the point of view of a participative observer.

The first task that faced the partners as the project was launched was making each other familiar with the national reforms or initiatives being undertaken in their respective countries. It was therefore natural that the first phase of the project involved producing and compiling national reports. However, at the same time the partnership agreed that it would not proceed as a quasi-comparative project content to prepare separate national reports and produce a quasi-synthesis based on a shallow point-by-point comparison. The partners considered it most vital that the project should be developed as a *collaborative* research enterprise. Thus, a major emphasis was placed on gaining a deeper understanding of the models that the partners had presented and on the lessons that could be learnt from the backgrounds, policy contexts and curricular concepts involved.

Therefore, once the national reports had been presented the project took an interim step to analyse them in terms of a number of major themes that

had been agreed on in a common workshop. For a while it was the working hypothesis that the next report could be structured on the basis of such themes. This theme-related analysis was carried out in pairs of or in groups of three partners representing different countries.However, when the theme-oriented reports were brought in for discussion, it became obvious that theme-related similarities and differences needed a contextual interpretation. After an intensive period of reflection the partnership developed a hypothetical common framework that distinguished four types of reform strategy (or clusters of reform strategies).

This interim result was also an important turning point in the work of the partnership. Not only had it been able to construct a tentative framework for interpreting the reforms and initiatives as such (as external phenomena) but the framework thus created also provided a code for presenting specific national circumstances as a particular variant of one of the main types. Moreover, it provided a code for formulating questions concerning "alien models" in a way that took into account the main type of strategy involved. Consequently, the partnership was able to pay attention to the fact that such questions are formulated and must be answered. And finally, it was important that these experiences of mutual learning were related to the relevant strategy cluster (rather than only to the particular national system).

However, the intention of developing the project as a collaborative research undertaking went beyond such mobilisation of mutual learning within the research partnership. The partnership also launched, as a part of the project, a small-scale series of bilateral study visits for practitioners (teachers and trainers) involved in implementing reform models of the kind studied by the research project. Although this element could not be developed into a complete series of reports, the outcomes of this exercise gave the work of the partnership a different flavour. Another factor emphasising the partnership's progress as a collaborative research project was the active participation of some representatives of practitioners in its last stages.

In the final phase the project the Post-16 Strategies team was confronted with a multitude of indications that the work should be continued. Firstly there was a need to take a second look at the conceptual framework (in view of its presentation of the four main types of reform strategy on the basis of the national examples). Secondly there was a need to re-examine the individual upper secondary education systems. And finally there was a need to cross-fertilise the results with the parallel work of the INTEQUAL partnership, with which the Post-16 Strategies team had interacted during

different phases of the work. Given these needs and the limited time available, the transition from shared reflection to final reporting proved somewhat abortive. Some aspects of the work which would have merited a common conclusive phase had to be summarised after the last joint workshops, when it was no longer possible to base the conclusions on shared reflection.

It is obvious that the partnership was only entering the phase in which it could have made effective use of what might be called its initial training in shared learning. This was an unavoidable consequence of its given terms of funding. To some extent the work can be carried on in the multiplier-effect project that will follow, but the most challenging questions (e.g., juxtaposing the findings of the partnership with those of the parallel INTEQUAL project) had to be put aside.

In view of the fact that the next generation of LEONARDO programmes (and transitional measures) is now being planned, it would be worthwhile to take a closer look at the experiences of such partnerships and find ways to give such "project environments" as the joint work of the two partnerships, INTEQUAL and Post-16 Strategies, a chance complete their processes of mutual learning by drawing conclusions about possible alternatives to existing policy models and related curricular constructs.

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EUROPEAN POST-16 EDUCATION STRATEGIES AND PARITY OF ESTEEM considers reforms of European post-16 education and systems of vocational education and training and their response to the challenge of promoting parity of esteem between initial vocational education and general/academic education. Its conclusions have been drawn from the case studies of Austria, England, Finland, France, Germany, Norway, Scotland and Sweden.

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